

# DUSTER

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## 1 Engine and peripherals

### 17B

#### PETROL INJECTION

##### V42 Injection

Program No.: 2A

Vdiag No.: 04, 06

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### 1. SCOPE OF THIS DOCUMENT

This document presents the fault finding method applicable to all computers with the following specifications:

**Vehicle(s):** LOGAN, SANDERO, DUSTER  
**Engine:** K7M714, K4M694, D4D760, K4M606  
**Function(s) concerned:**  
Petrol injection,  
Flex Fuel Injection

**Name of computer:** V42  
**Program No.:** 2A  
**Vdiag No.:** 04, 06

### 2. PREREQUISITES FOR FAULT FINDING

#### Documentation type

##### Fault finding procedures (this manual):

- Assisted fault finding (integrated into the **diagnostic tool**), Dialogys.

##### Wiring Diagrams:

- Visu - Schéma.

#### Type of diagnostic tools

- CLIP

#### Special tooling required

| Special tooling required |                             |
|--------------------------|-----------------------------|
| Diagnostic tool          |                             |
| <b>Elé 1590</b>          | 128-track computer bornier  |
| <b>Ele. 1681</b>         | universal bornier           |
| <b>Mot 1711</b>          | Injector flow measuring kit |
| Multimeter.              |                             |

### 3. SAFETY INSTRUCTIONS

Safety rules must be observed during any work on a component to prevent any material damage or personal injury:

- Make sure the battery is properly charged to avoid damaging the computers if there is a low charge.
- Use the appropriate tools.

### 4. REMINDER

To run diagnostics on the vehicle computers, switch on the ignition using the key

To switch off the + after ignition feed, switch off the ignition using the key.

**Injection computer:**

The injection computer is located in the engine compartment, behind the battery.

**TDC sensor:**

This sensor is located on the gearbox casing, behind the engine.

**Pinking sensor:**

This sensor is located between the four injectors.

**Refrigerant pressure sensor:**

This sensor is located on the air conditioning circuit.

**Injection coolant temperature sensor:**

This sensor is located on the engine water chamber.

**Injection air temperature sensor:**

The air temperature sensor is located at the air circuit inlet.

**Downstream oxygen sensor:**

The downstream oxygen sensor is located on the exhaust pipe downstream of the catalytic converter.

**Upstream oxygen sensor:**

The upstream oxygen sensor is located on the exhaust pipe after the manifold.

**Accelerator potentiometer:**

The potentiometer is located on the accelerator pedal.

**Brake light switch:**

The switch is located on the brake pedal.

**Injectors 1, 2, 3, 4:**

The injectors are mounted on the engine.

**Motorised throttle valve:**

The damper valve is located in front of the inlet manifold.

**Quadruple ignition coil module (D4D and K7M engines):**

The coil module is located in the engine compartment.

**Cylinder 1, 2, 3, 4 pencil coils (K4M engine):**

They are located on the cylinder head.

**Catalytic converter:**

The catalytic converter is located on the exhaust pipe downstream of the catalytic pre-converter.

**Fan unit relay:**

The relay is located on the cooling radiator.

**Injection computer:**

The injection computer receives information from various sensors and sends control signals to various actuators according to mappings that it has stored in the memory.

**TDC sensor:**

This sensor allows the computer to provide synchronisation as well as to know the position Top Dead Centre for injection phasing.

**Pinking sensor:**

This sensor allows the computer to correct the ignition advance under high engine load to avoid damaging the engine.

**Refrigerant pressure sensor:**

The role of the sensor is to measure the refrigerant fluid pressure in the air conditioning circuit.

**Injection coolant temperature sensor:**

The engine coolant temperature sensor informs the computer about the engine coolant temperature.

**Injection air temperature sensor:**

The air temperature sensor provides the computer with the temperature of air taken in by the engine.

**Oxygen sensors:**

The oxygen sensors allow the catalytic converter to correctly perform engine emission control tasks.

**Accelerator potentiometer:**

The potentiometer allows the computer to take into account driver requests expressed using the accelerator pedal.

**Clutch pedal switch:**

This switch allows the computer to convert to anti-jerking mode when the clutch pedal is depressed.

**Brake light switch:**

The brake light switch informs the computer of the brake pedal status.  
Two gangs are used if the cruise control function exists.

**Injectors:**

These injectors enable rapid, precise metering of the quantity of fuel injected, with excellent injection process repetitiveness.

**Motorised throttle valve:**

The throttle valve allows engine air flow to be managed according to driver requests.

**Quadruple ignition coil module (D4D and K7M engines):**

The ignition unit enables ignition (explosion timing control).

**Cylinder 1, 2, 3, 4 pencil coils (K4M engine):**

The pencil coils enable ignition (explosion timing control).

**Fan unit relay:**

The engine cooling fan unit relay supplies power to the engine cooling fan.

D4D760



1. Air filter
2. Motorised throttle valve
3. Injection air temperature sensor
4. Manifold pressure
5. Injectors
6. Ignition coils
7. Injection coolant temperature sensor
8. Pinking sensor
9. TDC sensor
10. Upstream oxygen sensors
11. Downstream oxygen sensors
12. Injection computer
13. Auxiliary cold starting system
14. Auxiliary fuel tank
15. Auxiliary fuel
16. Petrol/alcohol tank
17. Petrol pump
18. Bleed valve

K4M694



1. Air filter
2. Motorised throttle valve
3. Injection air temperature sensor
4. Manifold pressure
5. Injectors
6. Ignition coils
7. Injection coolant temperature sensor
8. Pinking sensor
9. TDC sensor
10. Upstream oxygen sensors
11. Downstream oxygen sensors
12. Injection computer
13. Auxiliary cold starting system
14. Auxiliary fuel tank
15. Auxiliary fuel
16. Petrol/alcohol tank
17. Petrol pump
18. Bleed valve

K7M714



1. Air filter
2. Motorised throttle valve
3. Injection air temperature sensor
4. Manifold pressure
5. Injectors
6. Ignition coils
7. Injection coolant temperature sensor
8. Pinking sensor
9. TDC sensor
10. Upstream oxygen sensors
11. Downstream oxygen sensors
12. Injection computer
13. Auxiliary cold starting system
14. Auxiliary fuel tank
15. Auxiliary fuel
16. Petrol/alcohol tank
17. Petrol pump
18. Bleed valve

K4M606

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- 1. Air filter
- 2. Motorised throttle valve
- 3. Injection air temperature sensor
- 4. Manifold pressure
- 5. Injectors
- 6. Ignition coils
- 7. Injection coolant temperature sensor
- 8. Pinking sensor
- 9. TDC sensor
- 10. Upstream oxygen sensors
- 11. Downstream oxygen sensors
- 12. Injection computer



### Engine immobiliser

This Verlog 2 type immobiliser function is managed by the UCH computer and the injection computer.

Before any starting request, the injection computer is protected.

When a starting request is made, the injection computer and the Passenger Compartment Control Unit (UCH) exchange authentication data via the multiplex network. This determines whether the engine start is authorised or denied.

After more than five consecutive failed authentication attempts, the injection computer goes into protection (anti-scanning) mode and no longer tries to authenticate the UCH computer. It only leaves this mode when the following sequence of operations is carried out:

- the ignition is left on for at least **20 seconds**,
- the message is switched off,
- the end of the injection computer self-feed is adhered to (the length of time varies depending on engine temperature).

After this, one and only one authentication attempt is allowed. If this fails again, repeat the sequence of operations described above.

If the injection computer still fails to unlock, contact the Techline.

### Impact detected

If an impact has been **stored** by the injection computer, turn off the ignition for **10 seconds**, then switch it back on to start the engine. Clear the faults using the control **RZ001 Fault memory**.

### WARNING

Disconnect the injection system computer when carrying out any welding work on the vehicle.

### ENGINE SPEED MANAGEMENT

Engine speed management is based on the following programs:

- Engine speed management when starting
- Engine speed management according to engine vibrations
- Idle speed management
- Engine speed restriction
- Engine speed management according to its status

#### Engine speed management when starting

This programming is used:

- To set the injection timing when starting, using the TDC (Top Dead Centre) sensor
- To calculate the amount of fuel to be injected into the cylinders to avoid flooding the engine.

#### Preventive correction of engine speed linked to vibrations

Programming that enables user comfort to be optimised during acceleration or deceleration which causes a harsh change in engine torque and therefore vibration in the driveshaft. Torque management is important during these situations.

#### Curative correction of engine speed linked to vibrations

This programming is used to absorb the oscillations in engine speed caused by vibration in the driveshaft.

### Idle speed management

This programming is used to calculate the adapted idle speed according to the conditions of use (cold engine, air conditioning requests, electrical consumer use etc.).

### Air supply

This is managed by a motorised throttle valve which is controlled by the injection computer.

The injection computer also performs the following tasks using the motorised throttle:

- management of valve oscillations which can produce undesirable torque,
- management of valve movement subject to mechanical faults when the valve reaches its mechanical boundaries,
- management of acoustic faults by limiting throttle opening at a certain engine speed and when stopping the engine.

### Torque management

The torque structure is the system for managing engine torque. It is necessary for some functions such as the electronic stability program (ESP), automatic transmission (BVA) or sequential gearbox (BVR).

Each computer (ESP, sequential gearbox, automatic transmission) sends a request for torque via the multiplex network to the injection computer. This arbitrates between the various torque requests and the driver's request (made via the accelerator pedal or the cruise control/speed limiter).

The result of this arbitration gives the torque setpoint. The computer then calculates the throttle position setpoint, the ignition advance *and the wastegate setpoint* (if a turbocharged engine) in order to provide the necessary torque.

### Ignition management

Management of ignition advance enables the combustion quality to be managed and therefore engine operation to be optimised. For a positive advance, the ignition point will be before TDC\*, however the advance can have a negative value.

TDC\*: Top Dead Centre.

### Fuel supply management

The fuel pump ensures the supply of fuel. It is activated for one second each time the + after ignition feed is switched on. It ensures the correct level of pressure in the circuit and thereby achieves correct engine starting, particularly if the vehicle has not been used for a long time. When the engine is running, the pump relay is controlled and therefore the pump is always active.

The petrol vapour absorber enables petrol vapour to be collected in order to limit its release into the atmosphere.

### Richness adjustment

Richness is managed using the upstream and downstream oxygen sensors located on the exhaust. For the sensors to be operational quickly, they need to be heated by the exhaust gas and by a resistor internal to the sensor. These sensors reflect the efficiency of combustion and, using information sent to the computer, they enable the quantity of fuel injected to be managed in order to meet the emission control standards and to ensure optimum engine operation.

### Engine temperature management

The engine is cooled by a 2-speed fan assembly.

To cool the engine, the first speed of the GMV\* is activated if the coolant temperature exceeds **99°C**, then the second speed is activated if the temperature exceeds **102°C**. A "very high temperature" warning light illuminates on the instrument panel if the temperature exceeds **108°C**.

GMV\*: Fan assembly

### OPERATIONS FOR REPLACING OR REPROGRAMMING THE COMPUTER

#### Procedure to be applied before replacement

This procedure must be applied before replacing or reprogramming the injection computer (see **MR 388 or 451, Mechanical, 17B, Petrol injection, Petrol injection computer: Removal - Refitting**).

#### IMPORTANT:

- The computer permanently stores the immobilisation function code. It is forbidden to perform tests with computers borrowed from the Parts Department or from another vehicle.
- Connect a battery charger and switch on the vehicle + after ignition feed.
- Switch off all the electrical consumers (lights, interior lighting, air conditioning, radio, etc.).

- Connect the diagnostic tool (mains or cigarette lighter supply).
- Save the data by running command: **SC003 Save computer data**. In the event of a fault, contact the Techline.
- In the event of a **replacement**, note the vehicle **VIN code** using command **ID008 VIN code**.
- Switch on vehicle + after ignition feed and wait until **the coolant temperature** is less than **70°C** and **the air temperature** is less than **50°C**. Consult parameter **PR064 Coolant temperature** and **PR059 Air temperature**.

#### IMPORTANT:

It is necessary to respect these temperature values in order to carry out the computer programming or reprogramming operations.

- Apply the programming or reprogramming operations described in **Technical Note 3585A Computer (re)programming procedure**.

#### IMPORTANT:

After (re)programming the computer, switch off the + after ignition feed and wait for the loss of communication message to appear on the diagnostic tool, if the message does not appear, wait for **9 minutes**. Failure to follow this procedure may cause the computer data to be corrupted.

#### Procedure to be applied after repair:

This procedure must be applied after replacing or reprogramming the computer.

#### Entering the saved data

- enter the saved data by running command **SC001 Write saved data**.

#### Programming the VIN code

- Display the identifier **ID008 VIN code**
- If the **VIN** is not entered, enter the **VIN** using command **VP010 Enter VIN**.

#### Injection computer initialisation

Start and stop the engine to initialise the computer and wait for the loss of communication message to appear on the diagnostic tool, if the message does not appear, wait for **9 minutes**.

The computer is automatically configured according to the sensors and options present on the vehicle.

If the data were not saved before the operation, carry out the following operations:

– **Programming the VIN code**

– Enter the **V.I.N.** using command **VP010 Enter VIN**.

– **Injector programming**

Program the injectors by accessing the sub-section entitled **Injector replacement operations**.

– **Programming the TDC sensor**

Program the TDC sensor by accessing the sub-section entitled **TDC (Top Dead Centre) sensor replacement operations**.

– **Programming the motorised throttle**

Program the motorised throttle by accessing the sub-section entitled **Throttle valve replacement operations**.

– **Injection computer initialisation**

Start and stop the engine to initialise the computer and wait for the loss of communication message to appear on the diagnostic tool, if the message does not appear, wait for **9 minutes**.

The computer is automatically configured according to the sensors and options present on the vehicle.

### THROTTLE VALVE REPLACEMENT OPERATIONS

- When replacing the inlet throttle valve, switch on the vehicle + after ignition feed, after replacing the part.
- Carry out resetting using command **RZ031 Throttle stop programming**.
- Switch off the ignition. The inlet valve will run a new programming procedure whilst maintaining the supply (power latch) due to the reinitialisation phase.
- Check that the programming is correct using status **ET051 Throttle stop programming**, it must be at **1**. If programming was not performed correctly, repeat the operation from the start.
- If the fault is still present, contact the Techline.

### OPERATIONS FOR REPLACING THE BRAKE PEDAL SWITCH

- When replacing the brake pedal switch, switch on the vehicle + after ignition feed, after replacing the part.
- Check that the switch statuses change as follows, when the brake pedal is activated:
  - **ET039** Brake pedal = 1 and **ET799** Brake Wire Contact = 1 when the brake pedal is **released**
  - **ET039** Brake pedal = 2 and **ET799** Brake Wire Contact = 2 when the brake pedal is **depressed**

### OPERATIONS FOR REPLACING THE TDC (TOP DEAD CENTRE) SENSOR

- Switch on the vehicle + after ignition feed,
- Carry out resetting using command **RZ037 Flywheel target programming**.

Operation for Programming

- Decelerate a first time with injection cut-off (feet off the brake, accelerator and clutch pedals) between **3500** and **3000 rpm**, in a gear above 3rd for at least 3 seconds for manual gearboxes.
- Decelerate a second time with injection cut-off (i.e. feet off the brake, accelerator pedal and clutch pedals) between **2400** and **2000 rpm**, in 3rd gear for a manual gearbox for at least 14 seconds.

BVM\*: Manual gearbox

Programming was performed successfully when status **ET089 Flywheel target programming** is at value **1**.

### OPERATIONS FOR REPLACING THE INJECTORS

- Switch on the vehicle + after ignition feed after replacing the part.  
Carry out resetting using command **RZ033 Richness regulation programming**.
- Switch off the ignition.  
A power latch is necessary to save the reset data.
- Switch on the vehicle + after ignition feed and check the values of the following parameters:  
**PR624 Richness regulation programming offset**  
**PR625 Richness regulation programming gain**
- Test the injectors using the following commands:  
**AC005 Cylinder 1 injector**  
**AC006 Cylinder 2 injector**  
**AC007 Cylinder 3 injector**  
**AC008 Cylinder 4 injector**.

# PETROL INJECTION

## Fault finding – Fault summary table

# 17B

| Tool fault | DTC code | Diagnostic tool title                      |
|------------|----------|--|
| DF001      | 0115     | Coolant temperature sensor circuit         |
| DF002      | 0095     | Air temperature sensor circuit             |
| DF011      | 0641     | Sensor supply voltage no. 1                |
| DF012      | 0651     | Sensor supply voltage no. 2                |
| DF015      | 0657     | Main relay control circuit                 |
| DF018      | 0480     | Low-speed fan unit control circuit         |
| DF026      | 0201     | Cylinder 1 injector control circuit        |
| DF027      | 0202     | Cylinder 2 injector control circuit        |
| DF028      | 0203     | Cylinder 3 injector control circuit        |
| DF029      | 0204     | Cylinder 4 injector control circuit        |
| DF038      | 0606     | Computer                                   |
| DF047      | 0560     | Computer feed voltage                      |
| DF050      | 0571     | Brake switch circuit                       |
| DF059      | 0301     | Misfiring on cylinder 1                    |
| DF060      | 0302     | Misfiring on cylinder 2                    |
| DF061      | 0303     | Misfiring on cylinder 3                    |
| DF062      | 0304     | Misfiring on cylinder 4                    |
| DF065      | 0300     | Combustion misfire                         |
| DF078      | 2100     | Motorised throttle control circuit         |
| DF079      | 2119     | Motorised throttle valve automatic control |
| DF081      | 0443     | Canister bleed solenoid valve circuit      |
| DF082      | 0135     | Upstream oxygen sensor heating circuit     |
| DF083      | 0141     | Downstream oxygen sensor heating circuit   |
| DF085      | 0627     | Fuel pump relay control circuit            |
| DF088      | 0325     | Pinking sensor circuit                     |
| DF091      | 0500     | Vehicle speed signal                       |
| DF092      | 0130     | Upstream oxygen sensor circuit             |
| DF093      | 0136     | Downstream oxygen sensor circuit           |
| DF095      | 0120     | Throttle potentiometer circuit gang1       |
| DF096      | 0220     | Throttle potentiometer circuit gang 2      |
| DF101      | C121     | ESP multiplex connection                   |

# PETROL INJECTION

## Fault finding – Fault summary table

# 17B

| Tool fault | DTC code | Diagnostic tool title                     |
|------------|----------|---|
| DF102      | 2503     | Alternator power signal available         |
| DF109      | 0313     | Low fuel level misfire                    |
| DF120      | 0335     | Engine speed sensor signal                |
| DF361      | 1351     | Ignition coil circuit 1-4                 |
| DF362      | 1352     | Ignition coil 2-3 circuit                 |
| DF394      | 0420     | Catalytic converter operating fault       |
| DF398      | 0170     | Fuel circuit operating fault              |
| DF409      | 0461     | Fuel level sensor circuit                 |
| DF457      | 0315     | Flywheel target                           |
| DF532      | 2502     | Alternator charge signal                  |
| DF556      | 2135     | Pedal/throttle position consistency       |
| DF631      | 0703     | Brake light switch signal                 |
| DF648      | 060B     | Computer                                  |
| DF721      | 0217     | Engine overheating                        |
| DF884      | 2632     | Additional fuel circuit pump relay        |
| DF887      | 0226     | Brake - accelerator pedal position        |
| DF894      | 1633     | Additional fuel circuit solenoid valve    |
| DF974      | 0225     | Pedal potentiometer circuit gang 1        |
| DF975      | 2120     | Pedal potentiometer circuit gang 2        |
| DF992      | 1644     | Additional heater 1 relay circuit         |
| DF993      | 1645     | Additional heater 2 relay circuit         |
| DF994      | 1646     | Additional heater 3 relay circuit         |
| DF1015     | 0504     | Brake switch signal consistency           |
| DF1017     | 061A     | Computer                                  |
| DF1058     | 0106     | Inlet pressure consistency                |
| DF1063     | C415     | ESP multiplex connection                  |
| DF1068     | 0530     | Refriger* pressure sensor voltage         |
| DF1072     | 0645     | Air conditioning compressor relay control |
| DF1074     | 0638     | Motorised throttle position inconsistent  |
| DF1355     | 1656     | Multiplexed torque regulator connection   |

\*Refriger: refrigerant



|  |  |
|--|--|
| <b>DF001<br/>PRESENT<br/>OR<br/>STORED</b> | <u>COOLANT TEMPERATURE SENSOR CIRCUIT</u><br>4.DEF: Voltage too low<br>5.DEF: Voltage too high<br>6.DEF: Micro-cut |
|--|--|

|              |   |
|--------------|---|
| <b>NOTES</b> | <b>Special notes:</b><br>– The OBD and Level 1 warning lights illuminate. |
|              | See the <b>Wiring Diagrams Technical Note</b> for Logan, Sandero, Duster. |

|   |
|---|
| <p>Check the connection and condition of the connector <b>of the coolant temperature sensor</b>, component code <b>244</b> and of the connections of the <b>injection computer</b>, component code <b>120</b>.<br/>If the connector(s) are faulty and if there is a repair procedure (see <b>Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair</b>), repair the connector, otherwise replace the wiring.</p>  |
| <p>Disconnect the <b>injection computer</b> connector, component code <b>120</b> (see <b>MR 388 or 451, Mechanical, 17B, Petrol injection, Petrol injection computer: Removal - Refitting</b>).<br/>Measure the <b>resistance</b> of component <b>244</b> by connections <b>3JK</b> and <b>3C</b> of the <b>injection computer</b> connector, component code <b>120</b>.</p> <p>If the <b>resistance</b> of the <b>coolant temperature sensor</b>, component code <b>244</b> is not between <math>100\ \Omega \leq X \leq 10\ \text{k}\Omega</math> at ambient temperature: replace the <b>coolant temperature sensor</b>, component code <b>244</b> (see <b>MR 388 or 451, Mechanical, 19A, Cooling, Coolant temperature sensor: Removal - Refitting</b>).</p> |
| <p>Check the <b>insulation, continuity and absence of interference resistance</b> on the following connections:</p> <ul style="list-style-type: none"><li>– <b>3JK</b> between components <b>120</b> and <b>244</b>.</li><li>– <b>3C</b> between components <b>120</b> and <b>244</b>.</li></ul> <p>If the connection or connections are faulty and there is a repair procedure (see <b>Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair</b>), repair the wiring, otherwise replace it.</p>   |
| <p>If the fault is still present, contact the Techline.</p>   |

|                     |   |
|---------------------|---|
| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
|---------------------|---|

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| <b>DF002<br/>PRESENT<br/>OR<br/>STORED</b>   | <u><b>AIR TEMPERATURE SENSOR CIRCUIT</b></u><br>2.DEF: Signal outside lower limit.<br>3.DEF: Signal outside upper limit. |
| <b>NOTES</b>   | <b>Special notes:</b><br>– The OBD and Level 1 warning lights illuminate.  |
|  | See the <b>Wiring Diagrams Technical Note for Logan, Sandero, Duster.</b>  |
| <p>Check the connection and condition of the connector of the air temperature sensor, component code <b>272</b> and of the connections of the <b>injection computer</b>, component code <b>120</b>.<br/>If the connectors are faulty and if there is a repair procedure (see <b>Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair</b>), repair the connector, otherwise replace the wiring.</p>  |  |
| <p>Measure the <b>resistance</b> of the <b>air temperature sensor</b>, component code <b>272</b> between connections <b>3B</b> and <b>3JQ</b>.<br/>If the <b>resistance</b> measured is not between <math>300\ \Omega \leq X \leq 6\ \text{k}\Omega</math>: replace the <b>air temperature sensor</b>, component code <b>272</b>.</p>  |  |
| <p>Check the <b>insulation, continuity and absence of interference resistance</b> on the following connections:<br/>– <b>3B</b> between components <b>799</b> and <b>120</b>.<br/>– <b>3JQ</b> between components <b>799</b> and <b>120</b>.<br/>If the connection or connections are faulty and there is a repair procedure (see <b>Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair</b>), repair the wiring, otherwise replace it.</p> |  |
| <p>If the fault is still present, contact the Techline.</p>  |  |

|                     |   |
|---------------------|---|
| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
|---------------------|---|

|  |  |
|--|--|
| <b>DF011<br/>PRESENT<br/>OR<br/>STORED</b> | <b>SENSOR FEED VOLTAGE NO. 1</b><br>1.DEF: Above maximum threshold.<br>2.DEF: Below minimum threshold. |
|--|--|

|              |   |
|--------------|---|
| <b>NOTES</b> | <b>Special notes:</b><br>– The OBD and Level 2 warning lights illuminate. |
|              | See the <b>Wiring Diagrams Technical Note for Logan, Sandero, Duster.</b> |

Disconnect the **accelerator pedal sensor gang 1**, component code **921** then switch on the ignition. Wait several seconds so that the computer can update the fault status.

If the fault changes from **present** to **stored**: Replace the **accelerator pedal sensor gang 1**, component code **921** (see **MR 388 or 451, Mechanical, 37A, Mechanical component controls, Accelerator pedal: Removal – Refitting**).

Disconnect the **motorised throttle valve**, component code **1076** then switch on the ignition (see **MR 388 or 451, Mechanical, 12A, Fuel mixture, Throttle valve: Removal - Refitting**).

Wait several seconds so that the computer can update the fault status.

If the fault changes from **present** to **stored**: Replace the **damper valve position sensor**, component code **1076** (see **MR 388 or 451, Mechanical, 12A, Fuel mixture, Throttle valve: Removal - Refitting**) referring to the **Replacement of components** section.

Check the **insulation, continuity and the absence of interference resistance** on the following connections:

- **3LR** between components **921** and **120**,
- **3LT** between components **921** and **120**,
- **3MN** between components **1076** and **120**,
- **3MO** between components **1076** and **120**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

|                     |   |
|---------------------|---|
| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
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| <b>DF012<br/>PRESENT<br/>OR<br/>STORED</b> | <b>SENSOR SUPPLY VOLTAGE NO. 2</b><br>1.DEF: Above maximum threshold.<br>2.DEF: Below minimum threshold. |
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| <b>NOTES</b> | <b>Special notes:</b><br>– The OBD and Level 2 warning lights illuminate. |
|              | See the <b>Wiring Diagrams Technical Note for Logan, Sandero, Duster.</b> |

Disconnect the **accelerator pedal sensor gang 2**, component code **921** then switch on the ignition (see **MR 388 or 451, Mechanical, 37A, Mechanical component control, Accelerator pedal: Removal – Refitting**).

Wait several seconds so that the computer can update the fault status.

If the fault changes from **present** to **stored**: Replace the **accelerator pedal sensor gang 2**, component code **921** (see **MR 388 or 451, Mechanical, 37A, Mechanical component controls, Accelerator pedal: Removal – Refitting**).

Disconnect the **manifold pressure sensor**, component code **147**, then switch on the ignition.

Wait several seconds so that the computer can update the fault status.

If the fault changes from **present** to **stored**: Replace the **inlet pressure sensor**, component code **147**.

Disconnect the **freon pressure sensor**, component code **1202**, then switch on the ignition (see **MR 388 or 451, Mechanical, 62A, Air conditioning, Pressure sensor: Removal - Refitting**).

Wait several seconds so that the computer can update the fault status.

If the fault changes from **present** to **stored**: Replace the **freon pressure sensor**, component code **1202** (see **MR 388 or 451, Mechanical, 62A, Air conditioning, Pressure sensor: Removal - Refitting**).

Check the **insulation, continuity and the absence of interference resistance** on the following connections:

- **3LU** between components **921** and **120**,
- **3LV** between components **921** and **120**,
- **3AJP** between components **147** and **120**,
- **3AJR** between components **147** and **120**,
- **38Y** between components **1202** and **120**,
- **38U** between components **1202** and **120**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

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| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
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| <b>DF015<br/>PRESENT<br/>OR<br/>STORED</b> | <b><u>MAIN RELAY CONTROL CIRCUIT</u></b><br>CC.0: Short circuit to earth. |
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| <b>NOTES</b> | <b>Conditions for applying the fault finding procedure to a stored fault:</b><br>The fault is declared <b>present</b> :<br>– switch on the powerlatch phase - <b>switch off + after ignition feed and switch on the + after ignition feed again</b> ). |
|              | See the <b>Wiring Diagrams Technical Note for Logan, Sandero, Duster</b> .   |

Check the connection and condition of the connectors of the **passenger compartment fuse box**, component code **1016**, of the **engine fuse box**, component code **597**, of the **injection computer**, component code **120** and of the **injection relay**, component code **1047** (see **MR 388 or 451, Mechanical, 87G, Engine compartment connection unit, Engine compartment connection unit: List and location of components**).

If the connector or connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

Check the condition and operation of the **injection relay**, component code **1047**.

If the injection relay is faulty, replace the injection relay, component code **1047** (see **MR 388 or 451, Mechanical, 87G, Engine compartment connection unit, Engine compartment connection unit: List and location of components**).

Check the **insulation, continuity and the absence of interference resistance** on the following connections:

- **3AA** between components **1047** and **120**,
- **3AC** between components **1047** and **120**,
- **AP29** between components **1016** and **120**,
- **BP37** between components **597** and **1047**,
- **BP17** between components **1047** and **597**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

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| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
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| <b>DF018<br/>PRESENT<br/>OR<br/>STORED</b> | <u>LOW SPEED FAN ASSEMBLY CONTROL CIRCUIT</u><br>CC.0: Short circuit to earth.<br>CC.1: Short circuit to +12 volts. |
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| <b>NOTES</b> | <b>Conditions for application to a stored fault:</b><br>The fault is declared present after the ignition has been switched on or after running command <b>AC038 Low speed fan assembly relay</b> |
|              | See the <b>Wiring Diagrams Technical Note for Logan, Sandero, Duster.</b>  |

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| Run command <b>AC038 Low speed fan assembly relay</b> and check the supply of the low speed fan assembly relay control circuit using a test light on connection <b>3JN</b> of component <b>120</b> .   |
| Check the connection and condition of the connector of the <b>injection computer</b> , component code <b>120</b> and of the <b>low speed fan assembly relay</b> , component code <b>784</b> .<br>If the connector or connectors are faulty and if there is a repair procedure (see <b>Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair</b> ), repair the connector, otherwise replace the wiring. |
| Check the <b>insulation, continuity and check for absence of interference resistance</b> on the following connection:<br>– <b>3JN</b> between components <b>784</b> and <b>120</b> .<br>If the connection is faulty and there is a repair procedure (see <b>Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair</b> ), repair the wiring, otherwise replace it.   |
| Run command <b>AC038 Low speed fan assembly relay</b> and check the supply of the low speed fan assembly relay power circuit using a test light on connection <b>49C</b> of component <b>784</b> .<br>If the check is not correct, replace the <b>fan assembly control relay</b> , component code <b>784</b> .   |
| If the fault is still present, contact the Techline.   |

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| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
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| <b>DF026<br/>PRESENT<br/>OR<br/>STORED</b> | <b>CYLINDER 1 INJECTOR CONTROL CIRCUIT</b><br>CO: Open circuit.<br>CC.1: Short-circuit on +12 volts.<br>CC.0: Short circuit to earth |
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| <b>NOTES</b> | The fault changes from stored to present when the engine is running at idle speed.   |
|              | <b>Special notes:</b><br>For CC.1 and CO, the OBD and Level 1 warning lights illuminate.<br>For CC.0, the Level 2 warning light illuminates. |
|              | Measure the resistance of the injector between 0°C and 40°C.   |
|              | See the <b>Wiring Diagrams Technical Note for Logan, Sandero, Duster.</b>  |

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| Check the connection and condition of the connector of the <b>injection computer</b> , component code <b>120</b> and of the <b>cylinder 1 injector</b> , component code <b>193</b> .<br>If the connector is faulty and there is a repair method (see <b>Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair</b> ), repair the connector, otherwise replace the wiring.   |
| Measure the <b>resistance</b> of the <b>cylinder 1 injector</b> , component code <b>193</b> between connections <b>3FB</b> and <b>3CR</b> .<br>If the <b>resistance</b> measured is not between $11\ \Omega \leq X \leq 20\ \Omega$ ( <b>K4M</b> and <b>D4D</b> engine) or $9.2\ \Omega \leq X \leq 17\ \Omega$ ( <b>K7M</b> engine): replace the <b>cylinder 1 injector</b> , component code <b>193</b> (see <b>MR 388, Mechanical, 13A, Fuel supply, Injector rail - Injectors: Removal – Refitting</b> or <b>MR 451, Mechanical, 17B, Petrol injection, Injector rail - Injectors: Removal – Refitting</b> ). |
| Run command <b>AC005 Cylinder 1 injector</b> and check the operation of the injector with a listening test.  |
| Check the <b>insulation, continuity and the absence of interference resistance</b> on the following connections:<br>– <b>3CR</b> between components <b>193</b> and <b>120</b> .<br>If the connection is faulty and there is a repair procedure (see <b>Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair</b> ), repair the wiring, otherwise replace it.  |
| With the ignition on, check for <b>+ 12 V</b> on connection <b>3FB</b> of component <b>193</b> .<br>If there is no <b>+ 12 V</b> , check the <b>continuity</b> of the following connection:<br>– <b>3FB</b> between components <b>597</b> and <b>193</b> .<br>If the connection is faulty and if there is a repair procedure (see <b>Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair</b> ), repair the wiring, otherwise replace it.  |
| If the fault is still present, contact the Techline.   |

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| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
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| <b>DF027<br/>PRESENT<br/>OR<br/>STORED</b> | <b><u>INJECTOR CYLINDER 2 CONTROL CIRCUIT</u></b><br>CO: Open circuit.<br>CC.1: Short-circuit on +12 volts.<br>CC.0: Short circuit to earth |
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| <b>NOTES</b> | The fault changes from stored to present when the engine is running at idle speed.   |
|              | <b>Special notes:</b><br>For <b>CC.1</b> and <b>CO</b> , the <b>OBD</b> and <b>Level 1</b> warning lights illuminate.<br>For <b>CC.0</b> , the <b>Level 2</b> warning light illuminates. |
|              | Measure the resistance of the injector between 0°C and 40°C.   |
|              | See the <b>Wiring Diagrams Technical Note for Logan, Sandero, Duster</b> .   |

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| Check the connection and condition of the connector of the <b>injection computer</b> , component code <b>120</b> and of the <b>cylinder 2 injector</b> , component code <b>194</b> .<br>If the connector is faulty and there is a repair method (see <b>Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair</b> ), repair the connector, otherwise replace the wiring.   |
| Measure the <b>resistance</b> of the <b>cylinder 2 injector</b> , component code <b>194</b> between connections <b>3FB</b> and <b>3CS</b> .<br>If the <b>resistance</b> measured is not between $11\ \Omega \leq X \leq 20\ \Omega$ ( <b>K4M</b> and <b>D4D</b> engine) or $9.2\ \Omega \leq X \leq 17\ \Omega$ ( <b>K7M</b> engine): replace the <b>cylinder 2 injector</b> , component code <b>194</b> (see <b>MR 388, Mechanical, 13A, Fuel supply, Injector rail - Injectors: Removal – Refitting</b> or <b>MR 451, Mechanical, 17B, Petrol injection, Injector rail - Injectors: Removal – Refitting</b> ). |
| Run command <b>AC006 Cylinder 2 injector</b> and check the operation of the injector with a listening test.  |
| Check the <b>insulation, continuity and the absence of interference resistance</b> on the following connections:<br>– <b>3CS</b> between components <b>194</b> and <b>120</b> .<br>If the connection is faulty and there is a repair procedure (see <b>Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair</b> ), repair the wiring, otherwise replace it.  |
| With the ignition on, check for <b>+ 12 V</b> on connection <b>3FB</b> of component <b>194</b> .<br>If there is no <b>+ 12 V</b> , check the <b>continuity</b> of the following connection:<br>– <b>3FB</b> between components <b>1047</b> and <b>194</b> .<br>If the connection is faulty and there is a repair procedure (see <b>Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair</b> ), repair the wiring, otherwise replace it.  |
| If the fault is still present, contact the Techline.   |

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| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
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| <b>DF028<br/>PRESENT<br/>OR<br/>STORED</b> | <b><u>CYLINDER 3 INJECTOR CONTROL CIRCUIT</u></b><br>CO: Open circuit.<br>CC.1: Short-circuit on +12 volts.<br>CC.0: Short circuit to earth |
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| <b>NOTES</b> | The fault changes from stored to present when the engine is running at idle speed.   |
|              | <b>Special notes:</b><br>For CC.1 and CO, the OBD and Level 1 warning lights illuminate.<br>For CC.0, the Level 2 warning light illuminates. |
|              | Measure the resistance of the injector between 0°C and 40°C.   |
|              | See the Wiring Diagrams Technical Note for Logan, Sandero, Duster.   |

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| Check the connection and condition of the connector of the <b>injection computer</b> , component code <b>120</b> and of the <b>cylinder 3 injector</b> , component code <b>195</b> .<br>If the connector is faulty and there is a repair method (see <b>Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair</b> ), repair the connector, otherwise replace the wiring.   |
| Measure the <b>resistance</b> of the <b>cylinder 3 injector</b> , component code <b>195</b> between connections <b>3FB</b> and <b>3CT</b> .<br>If the <b>resistance</b> measured is not between $11 \Omega \leq X \leq 20 \Omega$ ( <b>K4M</b> and <b>D4D</b> engine) or $9.2 \Omega \leq X \leq 17 \Omega$ ( <b>K7M</b> engine): replace the <b>cylinder 3 injector</b> , component code <b>195</b> (see <b>MR 388, Mechanical, 13A, Fuel supply, Injector rail - Injectors: Removal – Refitting</b> or <b>MR 451, Mechanical, 17B, Petrol injection, Injector rail - Injectors: Removal – Refitting</b> ). |
| Run command <b>AC007 Cylinder 3 injector</b> and check the operation of the injector with a listening test.  |
| Check the <b>insulation, continuity and the absence of interference resistance</b> on the following connections:<br>– <b>3CT</b> between components <b>195</b> and <b>120</b> .<br>If the connection is faulty and there is a repair procedure (see <b>Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair</b> ), repair the wiring, otherwise replace it.  |
| With the ignition on, check for <b>+ 12 V</b> on connection <b>3FB</b> of component <b>195</b> .<br>If there is no <b>+ 12 V</b> , check the <b>continuity</b> of the following connection:<br>– <b>3FB</b> between components <b>1047</b> and <b>195</b> .<br>If the connection is faulty and if there is a repair procedure (see <b>Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair</b> ), repair the wiring, otherwise replace it.   |
| If the fault is still present, contact the Techline.   |

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| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
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| <b>DF029<br/>PRESENT<br/>OR<br/>STORED</b> | <b>CYLINDER 4 INJECTOR CONTROL CIRCUIT</b><br>CO: Open circuit.<br>CC.1: Short-circuit on +12 volts.<br>CC.0: Short circuit to earth |
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| <b>NOTES</b> | The fault changes from stored to present when the engine is running at idle speed.   |
|              | <b>Special notes:</b><br>For CC.1 and CO, the OBD and Level 1 warning lights illuminate.<br>For CC.0, the Level 2 warning light illuminates. |
|              | Measure the resistance of the injector between 0°C and 40°C.   |
|              | See the Wiring Diagrams Technical Note for Logan, Sandero, Duster.   |

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| Check the connection and condition of the connector of the <b>injection computer</b> , component code <b>120</b> and of the <b>cylinder 4 injector</b> , component code <b>196</b> .<br>If the connector is faulty and there is a repair method (see <b>Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair</b> ), repair the connector, otherwise replace the wiring.   |
| Measure the <b>resistance</b> of the <b>cylinder 4 injector</b> , component code <b>196</b> between connections <b>3FB</b> and <b>3CU</b> .<br>If the <b>resistance</b> measured is not between $11\ \Omega \leq X \leq 20\ \Omega$ ( <b>K4M</b> and <b>D4D</b> engine) or $9.2\ \Omega \leq X \leq 17\ \Omega$ ( <b>K7M</b> engine): replace the <b>cylinder 4 injector</b> , component code <b>196</b> (see <b>MR 388, Mechanical, 13A, Fuel supply, Injector rail - Injectors: Removal – Refitting</b> or <b>MR 451, Mechanical, 17B, Petrol injection, Injector rail - Injectors: Removal – Refitting</b> ). |
| Run command <b>AC008 Cylinder 4 injector</b> and check the operation of the injector with a listening test.  |
| Check the <b>insulation, continuity and the absence of interference resistance</b> on the following connections:<br>– <b>3CU</b> between components <b>196</b> and <b>120</b> .<br>If the connection is faulty and there is a repair procedure (see <b>Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair</b> ), repair the wiring, otherwise replace it.  |
| With the ignition on, check for <b>+ 12 V</b> on connection <b>3FB</b> of component <b>196</b> .<br>If there is no <b>+ 12 V</b> , check the <b>continuity</b> of the following connection:<br>– <b>3FB</b> between components <b>1047</b> and <b>196</b> .<br>If the connection is faulty and if there is a repair procedure (see <b>Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair</b> ), repair the wiring, otherwise replace it.   |
| If the fault is still present, contact the Techline.   |

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| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
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| <b>DF038<br/>PRESENT<br/>OR<br/>STORED</b> | <u>COMPUTER</u><br>1.DEF: Internal electronic fault. |
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| <b>NOTES</b> | <b>Special notes:</b><br>The OBD and Level 2 warning lights illuminate.   |
|              | See the <b>Wiring Diagrams Technical Note</b> for Logan, Sandero, Duster. |

Contact the Techline.

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| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
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V42\_V04\_DF038 / V42\_V06\_DF038

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| <b>DF047<br/>PRESENT<br/>OR<br/>STORED</b> | <u>COMPUTER SUPPLY VOLTAGE</u><br>1.DEF: Permanent high signal.<br>2.DEF: Permanent low level. |
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| <b>NOTES</b> | <b>Special notes:</b><br>The OBD and Level 1 warning lights illuminate.   |
|              | See the <b>Wiring Diagrams Technical Note</b> for Logan, Sandero, Duster. |

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| Move the wiring harness between the <b>injection computer</b> , component code <b>120</b> and the <b>battery</b> , component code <b>107</b> to see if the status changes ( <b>Present</b> ↔ <b>Stored</b> ).<br>Look for any damage to the wiring harness and check the connection and condition of the <b>battery</b> , component code <b>107</b> and its connections.<br>If the connector is faulty and there is a repair method (see <b>Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair</b> ), repair the connector, otherwise replace the wiring. |
| Start the engine and check the battery voltage using <b>PR071 Computer supply voltage</b> is <b>X ≥ 9V</b> .   |
| Stop the engine and check the vehicle <b>charging circuit</b> (see <b>MR 388 Mechanical, 16A, Starting – Charging, Charging circuit: Check</b> ).  |
| If the fault is still present, contact the Techline.   |

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| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
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| <b>DF050<br/>PRESENT<br/>OR<br/>STORED</b> | <b>BRAKE SWITCH CIRCUIT</b><br>1.DEF: Inconsistent signal. |
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| <b>NOTES</b> | <b>Conditions for applying the fault finding procedure to a stored fault:</b><br>The fault is <b>present</b> after the ignition has been switched on and the brake pedal has been depressed.<br>The fault appears after a fault on one of the two brake switch contacts.<br><br>See the <b>Wiring Diagrams Technical Note for Logan, Sandero, Duster.</b> |
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With the brake pedal **released**, check **ET039 Brake pedal** and **ET799 Brake wire contact**.  
**ET039** must be **Released** and **ET799** **Inactive**.

Check the fitting and mechanical operation of the brake pedal (the pedal returns properly).  
If the check is incorrect, check the braking system.

Remove the **brake pedal switch**, component code **160** (see **MR 388 or 451, Mechanical, 37A, Mechanical component controls, Brake pedal switch: Removal - Refitting**) and, without action on the pedal, press sufficiently on the brake pedal switch to seat it completely in its position.  
Lock it by turning it an eighth of a turn.

With the brake pedal **depressed**, measure the **resistance** of the **brake pedal switch**, component code **160** between connections **AP1** and **65A**, the value must be  **$X > 1000 \text{ k}\Omega$** .  
If the **resistance** is not correct, replace the **brake pedal switch**, component code **160** (see **MR 388 or 451, Mechanical, 37A, Mechanical component controls, Brake pedal switch: Removal - Refitting**).  
With the brake pedal **released**, measure the **resistance** of the **brake pedal switch**, component code **160** between connections **AP1** and **5A**, the value must be between  **$0 \Omega < X \leq 1 \Omega$** .  
If the **resistance** is not correct, replace the **brake pedal switch**, component code **160** (see **MR 388 or 451, Mechanical, 37A, Mechanical component controls, Brake pedal switch: Removal - Refitting**).

Check the **brake pedal switch** connector, component code **160** (see **MR 388 or 451, Mechanical, 37A, Mechanical component controls, Brake pedal switch: Removal - Refitting**).  
If the connector is faulty and if there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring

Check fuse **F03 (10 A)** and replace it if necessary.

**Checking the brake pedal switch:**  
After the repair, perform these two checks.  
With the brake pedal **released**, check **ET039** and **ET799**.  
**ET039** must be **Released** and **ET799** must be **Inactive**.  
While depressing the brake pedal, check **ET039** and **ET799**.  
**ET039** must be **depressed** and **ET799** must be **active**.  
The two checks must be correct.

If the fault is still present, contact the Techline.

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| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
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| <b>DF059<br/>PRESENT<br/>OR<br/>STORED</b> | <b><u>COMBUSTION MISFIRES ON CYLINDER 1</u></b><br>1.DEF: Polluting misfiring<br>2.DEF: Destructive misfiring |
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| <b>NOTES</b> | <b>Priority when dealing with a number of faults:</b><br>– <b>DF109 Low fuel level misfire</b> ,<br>Check whether there are other cylinders with a <b>combustion misfire</b> fault reported <b>by the diagnostic tool</b> before starting the fault finding procedure below. |
|              | <b>Conditions for applying the fault finding procedure to a stored fault:</b><br>The fault is considered <b>present</b> under the following conditions:<br>– engine running at idling speed.   |
|              | <b>Special note:</b><br><b>Level 1 fault warning light illuminated.</b>  |

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| <b>1.DEF</b> | <b>NOTES</b> | None. |
|--------------|--------------|-------|

Check the ignition coil circuit (see **MR 388, Mechanical, 17A, Ignition, Ignition: Specifications**),  
Check the fuel supply circuit (see **MR 388 or 451, Mechanical, 13A, Fuel supply, Fuel circuit: Operating diagram**),  
Check the fuel supply pump circuit,  
Check the condition of the cylinder 1 injector (see **MR 388, Mechanical, 13A, Fuel supply, Injector rail - Injectors: Removal – Refitting** or **MR 451, Mechanical, 17B, Petrol injection, Injector rail - Injectors: Removal – Refitting**),  
Check the compression of cylinder 1.

After repair, check that the catalytic converter is not damaged by the misfire.  
To do this, switch on the ignition, run the catalytic converter test **SC006 Run OBD test: Catalytic converter** and start the engine (only depress the brake pedal to authorise the starting of the engine, do not touch the accelerator pedal or clutch pedal).

At the end, check the test results:

**STATUS1:** Fault finding was not performed/impossible to obtain the necessary conditions

**STATUS2:** The component is in an average condition - sensor OK

**STATUS3:** The component is in a good condition - sensor OK

**STATUS4:** The component is in a poor condition - replace the catalytic converter (see **MR 388 or 451, Mechanical, 19B, Exhaust, Catalytic converter: Removal - Refitting**).

|                     |   |
|---------------------|---|
| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
|---------------------|---|

# PETROL INJECTION

## Fault finding – Interpretation of faults

17B

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|----------------------------|--|
| <b>DF059<br/>CONTINUED</b> |  |
|----------------------------|--|

|              |              |       |
|--------------|--------------|-------|
| <b>2.DEF</b> | <b>NOTES</b> | None. |
|--------------|--------------|-------|

Check the ignition coil circuit (see **MR 388, Mechanical, 17A, Ignition, Ignition: Specifications**),  
Check the fuel supply circuit (see **MR 388 or 451, Mechanical, 13A, Fuel supply, Fuel circuit: Operating diagram**),  
Check the fuel supply pump circuit  
Check the condition of the cylinder 1 injector (see **MR 388, Mechanical, 13A, Fuel supply, Injector rail - Injectors: Removal – Refitting** or **MR 451, Mechanical, 17B, Petrol injection, Injector rail - Injectors: Removal – Refitting**),  
Check the compression of cylinder 1.

|                     |   |
|---------------------|---|
| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
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|--|--|
| <b>DF060<br/>PRESENT<br/>OR<br/>STORED</b> | <b>MISFIRING ON CYLINDER 2</b><br>1.DEF: Polluting misfiring<br>2.DEF: Destructive misfiring |
|--|--|

|              |  |
|--------------|--|
| <b>NOTES</b> | <b>Priority when dealing with a number of faults:</b><br>– <b>DF109 Low fuel level misfire</b> ,<br>Check whether there are other cylinders with a <b>combustion misfire</b> fault reported <b>by the diagnostic tool</b> before starting the fault finding procedure below. |
|              | <b>Conditions for applying the fault finding procedure to a stored fault:</b><br>The fault is considered <b>present</b> under the following conditions:<br>– engine running at idling speed.   |
|              | <b>Special note:</b><br><b>Level 1 fault warning light illuminated.</b>  |

|              |              |       |
|--------------|--------------|-------|
| <b>1.DEF</b> | <b>NOTES</b> | None. |
|--------------|--------------|-------|

Check the ignition coil circuit (see **MR 388, Mechanical, 17A, Ignition, Ignition: Specifications**),  
Check the fuel supply circuit (see **MR 388 or 451, Mechanical, 13A, Fuel supply, Fuel circuit: Operating diagram**),  
Check the fuel supply pump circuit (see **MR 388 or 451, Mechanical, 13A, Fuel supply, Fuel circuit: Operating diagram**),  
Check the condition of the cylinder 2 injector (see **MR 388, Mechanical, 13A, Fuel supply, Injector rail - Injectors: Removal – Refitting** or **MR 451, Mechanical, 17B, Petrol injection, Injector rail - Injectors: Removal – Refitting**),  
Check the compression of cylinder 2.

After repair, check that the catalytic converter is not damaged by the misfire.  
To do this, switch on the ignition, run the catalytic converter test **SC006 Run OBD test: Catalytic converter** and start the engine (only depress the brake pedal to authorise the starting of the engine, do not touch the accelerator pedal or clutch pedal).

At the end, check the test results:

**STATUS1:** Fault finding was not performed/impossible to obtain the necessary conditions

**STATUS2:** The component is in an average condition - sensor OK

**STATUS3:** The component is in a good condition - sensor OK

**STATUS4:** The component is in a poor condition - replace the catalytic converter (see **MR 388 or 451, Mechanical, 19B, Exhaust, Catalytic converter: Removal - Refitting**).

|                     |   |
|---------------------|---|
| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
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# PETROL INJECTION

## Fault finding – Interpretation of faults

17B

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|----------------------------|--|
| <b>DF060<br/>CONTINUED</b> |  |
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|--------------|--------------|-------|
| <b>2.DEF</b> | <b>NOTES</b> | None. |
|--------------|--------------|-------|

Check the ignition coil circuit (see **MR 388, Mechanical, 17A, Ignition, Ignition: Specifications**),  
Check the fuel supply circuit (see **MR 388 or 451, Mechanical, 13A, Fuel supply, Fuel circuit: Operating diagram**),  
Check the fuel supply pump circuit (see **MR 388 or 451, Mechanical, 13A, Fuel supply, Fuel circuit: Operating diagram**),  
Check the condition of the cylinder 2 injector (see **MR 388, Mechanical, 13A, Fuel supply, Injector rail - Injectors: Removal – Refitting** or **MR 451, Mechanical, 17B, Petrol injection, Injector rail - Injectors: Removal – Refitting**),  
Check the compression of cylinder 2.

|                     |   |
|---------------------|---|
| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
|---------------------|---|

|  |   |
|--|---|
| <b>DF061<br/>PRESENT<br/>OR<br/>STORED</b> | <b><u>MISFIRING ON CYLINDER 3</u></b><br>1.DEF: Polluting misfiring<br>2.DEF: Destructive misfiring |
|--|---|

|              |  |
|--------------|--|
| <b>NOTES</b> | <b>Priority when dealing with a number of faults:</b><br>– <b>DF109 Low fuel level misfire</b> ,<br>Check whether there are other cylinders with a <b>combustion misfire</b> fault reported <b>by the diagnostic tool</b> before starting the fault finding procedure below. |
|              | <b>Conditions for applying the fault finding procedure to a stored fault:</b><br>The fault is considered <b>present</b> under the following conditions:<br>– engine running at idling speed.   |
|              | <b>Special note:</b><br><b>Level 1 fault warning light illuminated.</b>  |

|              |              |       |
|--------------|--------------|-------|
| <b>1.DEF</b> | <b>NOTES</b> | None. |
|--------------|--------------|-------|

Check the ignition coil circuit (see **MR 388, Mechanical, 17A, Ignition, Ignition: Specifications**),  
 Check the fuel supply circuit (see **MR 388 or 451, Mechanical, 13A, Fuel supply, Fuel circuit: Operating diagram**),  
 Check the fuel supply pump circuit (see **MR 388, Mechanical, 13A, Fuel supply, Fuel circuit: Operating diagram**),  
 Check the condition of the cylinder 3 injector (see **MR 388, Mechanical, 13A, Fuel supply, Injector rail - Injectors: Removal – Refitting** or **MR 451, Mechanical, 17B, Petrol injection, Injector rail - Injectors: Removal – Refitting**),  
 Check the compression of cylinder 3.

After repair, check that the catalytic converter is not damaged by the misfire.

To do this, switch on the ignition, run the catalytic converter test **SC006 Run OBD test: Catalytic converter** and start the engine (only depress the brake pedal to authorise the starting of the engine, do not touch the accelerator pedal or clutch pedal).

At the end, check the test results:

**STATUS1:** Fault finding was not performed/impossible to obtain the necessary conditions

**STATUS2:** The component is in an average condition - sensor OK

**STATUS3:** The component is in a good condition - sensor OK

**STATUS4:** The component is in a poor condition - replace the catalytic converter (see **MR 388 or 451, Mechanical, 19B, Exhaust, Catalytic converter: Removal - Refitting**).

|                     |   |
|---------------------|---|
| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
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# PETROL INJECTION

## Fault finding – Interpretation of faults

17B

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| <b>DF061<br/>CONTINUED</b> |  |
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|              |              |       |
|--------------|--------------|-------|
| <b>2.DEF</b> | <b>NOTES</b> | None. |
|--------------|--------------|-------|

Check the ignition coil circuit (see **MR 388, Mechanical, 17A, Ignition, Ignition: Specifications**),  
Check the fuel supply circuit (see **MR 388 or 451, Mechanical, 13A, Fuel supply, Fuel circuit: Operating diagram**),  
Check the fuel supply pump circuit (see **MR 388 or 451, Mechanical, 13A, Fuel supply, Fuel circuit: Operating diagram**),  
Check the condition of the cylinder 3 injector (see **MR 388, Mechanical, 13A, Fuel supply, Injector rail - Injectors: Removal – Refitting** or **MR 451, Mechanical, 17B, Petrol injection, Injector rail - Injectors: Removal – Refitting**),  
Check the compression of cylinder 3.

|                     |   |
|---------------------|---|
| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
|---------------------|---|

|  |   |
|--|---|
| <b>DF062<br/>PRESENT<br/>OR<br/>STORED</b> | <b><u>MISFIRING ON CYLINDER 4</u></b><br>1.DEF: Polluting misfiring<br>2.DEF: Destructive misfiring |
|--|---|

|              |  |
|--------------|--|
| <b>NOTES</b> | <b>Priority when dealing with a number of faults:</b><br>– <b>DF109 Low fuel level misfire</b> ,<br>Check whether there are other cylinders with a <b>combustion misfire</b> fault reported <b>by the diagnostic tool</b> before starting the fault finding procedure below. |
|              | <b>Conditions for applying the fault finding procedure to a stored fault:</b><br>The fault is considered <b>present</b> under the following conditions:<br>– engine running at idling speed.   |
|              | <b>Special note:</b><br><b>Level 1 fault warning light illuminated.</b>  |

|              |              |       |
|--------------|--------------|-------|
| <b>1.DEF</b> | <b>NOTES</b> | None. |
|--------------|--------------|-------|

Check the ignition coil circuit (see **MR 388, Mechanical, 17A, Ignition, Ignition: Specifications**),  
 Check the fuel supply circuit (see **MR 388 or 451, Mechanical, 13A, Fuel supply, Fuel circuit: Operating diagram**),  
 Check the fuel supply pump circuit (see **MR 388 or 451, Mechanical, 13A, Fuel supply, Fuel circuit: Operating diagram**),  
 Check the condition of the cylinder 4 injector (see **MR 388, Mechanical, 13A, Fuel supply, Injector rail - Injectors: Removal – Refitting** or **MR 451, Mechanical, 17B, Petrol injection, Injector rail - Injectors: Removal – Refitting**),  
 Check the compression of cylinder 4.

After repair, check that the catalytic converter is not damaged by the misfire.

To do this, switch on the ignition, run the catalytic converter test **SC006 Run OBD test: Catalytic converter** and start the engine (only depress the brake pedal to authorise the starting of the engine, do not touch the accelerator pedal or clutch pedal).

At the end, check the test results:

**STATUS1:** Fault finding was not performed/impossible to obtain the necessary conditions

**STATUS2:** The component is in an average condition - sensor OK

**STATUS3:** The component is in a good condition - sensor OK

**STATUS4:** The component is in a poor condition - replace the catalytic converter (see **MR 388 or 451, Mechanical, 19B, Exhaust, Catalytic converter: Removal - Refitting**).

|                     |   |
|---------------------|---|
| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
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# PETROL INJECTION

## Fault finding – Interpretation of faults

17B

|                    |  |
|--------------------|--|
| DF062<br>CONTINUED |  |
|--------------------|--|

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|-------|-------|-------|
| 2.DEF | NOTES | None. |
|-------|-------|-------|

Check the ignition coil circuit (see **MR 388, Mechanical, 17A, Ignition, Ignition: Specifications**),  
Check the fuel supply circuit (see **MR 388 or 451, Mechanical, 13A, Fuel supply, Fuel circuit: Operating diagram**),  
Check the fuel supply pump circuit (see **MR 388 or 451, Mechanical, 13A, Fuel supply, Fuel circuit: Operating diagram**),  
Check the condition of the cylinder 4 injector (see **MR 388, Mechanical, 13A, Fuel supply, Injector rail - Injectors: Removal – Refitting** or **MR 451, Mechanical, 17B, Petrol injection, Injector rail - Injectors: Removal – Refitting**),  
Check the compression of cylinder 4.

|              |   |
|--------------|---|
| AFTER REPAIR | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
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|--|---|
| <b>DF065<br/>PRESENT<br/>OR<br/>STORED</b> | <u><b>COMBUSTION MISFIRES</b></u><br>1.DEF: Polluting misfiring<br>2.DEF: Destructive misfiring |
|--|---|

|              |   |
|--------------|---|
| <b>NOTES</b> | <b>Priority when dealing with a number of faults:</b><br>– <b>DF109 Low fuel level misfire,</b><br>– <b>DF059 Combustion misfire on cylinder 1,</b><br>– <b>DF060 Combustion misfire on cylinder 2,</b><br>– <b>DF061 Combustion misfire on cylinder 3,</b><br>– <b>DF062 Combustion misfire on cylinder 4.</b> |
|              | <b>Conditions for applying the fault finding procedure to a stored fault:</b><br>The fault is considered <b>present</b> under the following conditions:<br>– engine running at idling speed.  |
|              | <b>Special note:</b><br><b>Level 1 fault warning light illuminated.</b>   |

|              |              |       |
|--------------|--------------|-------|
| <b>1.DEF</b> | <b>NOTES</b> | None. |
|--------------|--------------|-------|

Check the ignition coil circuit (see **MR 388, Mechanical, 17A, Ignition, Ignition: Specifications**),  
Check the fuel supply circuit (see **MR 388 or 451, Mechanical, 13A, Fuel supply, Fuel circuit: Operating diagram**),  
Check the fuel supply pump circuit (see **MR 388 or 451, Mechanical, 13A, Fuel supply, Fuel circuit: Operating diagram**),  
Check the condition of the cylinder injector (see **MR 388, Mechanical, 13A, Fuel supply, Injector rail - Injectors: Removal – Refitting** or **MR 451, Mechanical, 17B, Petrol injection, Injector rail - Injectors: Removal – Refitting**),  
Check the compression of the cylinder.

After repair, check that the catalytic converter is not damaged by the misfire.  
To do this, switch on the ignition, run the catalytic converter test **SC006 Run OBD test: Catalytic converter** and start the engine (only depress the brake pedal to authorise the starting of the engine, do not touch the accelerator pedal or clutch pedal).

At the end, check the test results:

**STATUS1:** Fault finding was not performed/impossible to obtain the necessary conditions

**STATUS2:** The component is in an average condition - sensor OK

**STATUS3:** The component is in a good condition - sensor OK

**STATUS4:** The component is in a poor condition - replace the catalytic converter (see **MR 388 or 451, Mechanical, 19B, Exhaust, Catalytic converter: Removal - Refitting**).

|                     |   |
|---------------------|---|
| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
|---------------------|---|

# PETROL INJECTION

## Fault finding – Interpretation of faults

17B

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|----------------------------|--|
| <b>DF065<br/>CONTINUED</b> |  |
|----------------------------|--|

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|--------------|--------------|-------|
| <b>2.DEF</b> | <b>NOTES</b> | None. |
|--------------|--------------|-------|

Check the ignition coil circuit (see **MR 388, Mechanical, 17A, Ignition, Ignition: Specifications**),  
Check the fuel supply circuit (see **MR 388 or 451, Mechanical, 13A, Fuel supply, Fuel circuit: Operating diagram**),  
Check the fuel supply pump circuit (see **MR 388 or 451, Mechanical, 13A, Fuel supply, Fuel circuit: Operating diagram**),  
Check the condition of the cylinder injector (see **MR 388, Mechanical, 13A, Fuel supply, Injector rail - Injectors: Removal – Refitting** or **MR 451, Mechanical, 17B, Petrol injection, Injector rail - Injectors: Removal – Refitting**),  
Check the compression of the cylinder.

|                     |   |
|---------------------|---|
| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
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**DF078  
PRESENT  
OR  
STORED**

**MOTORISED THROTTLE CONTROL CIRCUIT**

1.DEF: Motorised throttle general control fault

**WARNING:**

Never drive the vehicle without having confirmed that no faults involving the throttle valve are present.

**NOTES**

**Conditions for applying the fault finding procedure to a stored fault:**

The fault is considered **present** if:

- the engine speed varies,
- the AC027 Motorised throttle command is activated.

**Special notes:**

**OBD warning light and level 1 fault warning light illuminated.**

See the **Wiring Diagrams Technical Note for Logan, Sandero, Duster.**

Check the **cleanliness and condition** of the injection computer connector, component code **120** and of the throttle valve connector, component code **1076**.

If the connector or connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector(s), otherwise replace the wiring.

Check the **insulation, continuity and the absence of interference resistance** on the following connections:

- **3AJB** between components **120** and **1076**,
- **3AJC** between components **120** and **1076**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline

**AFTER REPAIR**

Deal with any faults displayed by the **diagnostic tool**.

Clear the computer fault memory.

Carry out a road test followed by another check with the **diagnostic tool**.



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| <b>DF079<br/>PRESENT<br/>OR<br/>STORED</b> | <b>MOTORISED THROTTLE VALVE SERVO</b><br>1.DEF: Motorised throttle rest position programming error<br>2.DEF: Values outside permitted tolerance<br>3.DEF: Incorrect position of throttle valve in safe mode |
|--|---|

|              |   |
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| <b>NOTES</b> | <b>Conditions for applying the fault finding procedure to a stored fault:</b><br>The fault is declared <b>present</b> :<br>– switch on the powerlatch phase - <b>switch off + after ignition feed and switch on the + after ignition feed again</b> |
|              | <b>Special notes:</b><br><b>OBD warning light and level 1 fault warning light illuminated.</b>  |
|              | See the <b>Wiring Diagrams Technical Note for Logan, Sandero, Duster.</b>   |

|   |
|---|
| Check the <b>cleanliness and condition</b> of the injection computer connector, component code <b>120</b> and of the throttle valve connector, component code <b>1076</b> .<br>If the connector or connectors are faulty and if there is a repair procedure (see <b>Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair</b> ), repair the connector(s), otherwise replace the wiring.   |
| If the fault is still present, manually check that the throttle valve <b>rotates correctly</b> .<br>Repair if necessary (see <b>MR 388 or 451, Mechanical, 12A, Fuel mixture, Throttle valve: Cleaning</b> ).   |
| Accelerate a couple of times and check that the values of <b>PR538 Measured voltage gang 2</b> and <b>PR539 Measured voltage gang 1</b> vary according to acceleration.   |
| If the fault is still present, disconnect the battery and the injection computer.<br>Check the <b>insulation, continuity and absence of interference resistance</b> of the following connections:<br>– <b>3AJB</b> between components <b>120</b> and <b>1076</b> ,<br>– <b>3AJC</b> between components <b>120</b> and <b>1076</b> ,<br>– <b>3MO</b> between components <b>120</b> and <b>1076</b> ,<br>– <b>3MP</b> between components <b>120</b> and <b>1076</b> ,<br>– <b>3MN</b> between components <b>120</b> and <b>1076</b> ,<br>– <b>3MQ</b> between components <b>120</b> and <b>1076</b> .<br>If the connection or connections are faulty and if there is a repair method (see <b>Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair</b> ), repair the wiring, otherwise replace the wiring. |
| If the throttle valve has been replaced, reinitialise the programming by running command <b>RZ031 Throttle stop programming</b> .   |
| If the fault is still present, <b>contact Techline</b> .  |

|                     |  |
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| <b>AFTER REPAIR</b> | Follow the instructions to confirm repair.<br>Deal with any other faults.<br>Clear the <b>stored</b> faults. |
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| <b>DF081<br/>PRESENT<br/>OR<br/>STORED</b> | <b><u>CANISTER BLEED SOLENOID VALVE CIRCUIT</u></b><br>CO: Open circuit<br>CC.0: Short circuit to earth<br>CC.1: Short circuit to + 12 V |
|--|--|

|              |  |
|--------------|--|
| <b>NOTES</b> | <b>See the Wiring Diagrams Technical Note for Logan, Sandero, Duster.</b>  |
|              | <b>Special notes:</b><br><b>For CO and CC.1, the OBD warning light and level 1 fault warning light illuminate.</b> |

Check the **cleanliness and condition** of the connector of the injection computer, component code **120** and of the connector of the fuel vapour absorber bleed solenoid valve, component code **371**.

If the connector or connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector(s), otherwise replace the wiring.

Check the **insulation, continuity and the absence of interference resistance** on the following connections:

– **3FB** between components **371** and **1047**,

– **3BB** between components **371** and **120**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

With the ignition on, check for **+ 12 V** on connection **3FB** of component **371**.

If the connection is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

Check the operation of the canister bleed solenoid valve using command **AC017 Canister bleed solenoid valve**.

Check the **resistance of the fuel vapour absorber bleed solenoid valve**.

If the resistance of the fuel vapour absorber bleed solenoid valve is not between: **24 Ω < X < 30 Ω** between **0°C** and **40°C**, replace the fuel vapour absorber bleed solenoid valve (see **MR 388 or 451, Mechanical, 14A, Emission control, Fuel vapour absorber: Removal - Refitting**).

If the fault is still present, **contact Techline**.

|                     |  |
|---------------------|--|
| <b>AFTER REPAIR</b> | Follow the instructions to confirm repair.<br>Deal with any other faults.<br>Clear the <b>stored</b> faults. |
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| <b>DF082<br/>PRESENT<br/>OR<br/>STORED</b> | <u>UPSTREAM OXYGEN SENSOR HEATING CIRCUIT</u><br>CO: Open circuit<br>CC.0: Short circuit to earth<br>CC.1: Short circuit to + 12 V |
|--|--|

|              |   |
|--------------|---|
| <b>NOTES</b> | See the <b>Wiring Diagrams Technical Note for Logan, Sandero, Duster.</b>                                   |
|              | <b>Special notes:</b><br>For CO and CC.1, the OBD warning light and level 1 fault warning light illuminate. |

Check the **condition of the fuse** of the supply circuit for the upstream oxygen sensor, component code **887**.  
If the fuse is faulty, replace the fuse (see **MR 388 or 451, Mechanical, 81C, Fuses, Fuses: List and location of components**).

Check the **cleanliness** and **condition** of the injection computer connector, component code **120** and of the upstream oxygen sensor connector, component code **887**.  
If the connector or connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector(s), otherwise replace the wiring.

With the ignition on, check for **+ 12 V** on connection **3FB** of component **887**.  
Check the **insulation, continuity and the absence of interference resistance** of the following connection:  
– **3FB** between components **1047** and **887**,  
– **3GF** between components **120** and **887**.  
If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring. Otherwise replace the wiring.

If all the checks are correct, replace the upstream oxygen sensor, component code **887** (see **MR 388 or 452, Mechanical, 17B, Petrol injection, Oxygen sensors: Removal - Refitting**).

If the fault is still present, contact the Techline.

|                     |  |
|---------------------|--|
| <b>AFTER REPAIR</b> | Follow the instructions to confirm repair.<br>Deal with any other faults.<br>Clear the <b>stored</b> faults. |
|---------------------|--|

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|--|--|
| <b>DF083<br/>PRESENT<br/>OR<br/>STORED</b> | <u>DOWNSTREAM OXYGEN SENSOR HEATING CIRCUIT</u><br>CO: Open circuit<br>CC.0: Short circuit to earth<br>CC.1: Short circuit to + 12 V |
|--|--|

|              |   |
|--------------|---|
| <b>NOTES</b> | See the <b>Wiring Diagrams Technical Note for Logan, Sandero, Duster.</b>                                   |
|              | <b>Special notes:</b><br>For CO and CC.1, the OBD warning light and level 1 fault warning light illuminate. |

Check the **condition of the fuse** of the supply circuit for the downstream oxygen sensor, component code **242**.  
If the fuse is faulty, replace the fuse (see **MR 388 or 451, Mechanical, 81C, Fuses, Fuses: List and location of components**).

Check the **cleanliness** and **condition** of the injection computer connector, component code **120** and of the connector of the downstream oxygen sensor, component code **242**.  
If the connector or connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector(s), otherwise replace the wiring.

With the ignition on, check for **+ 12 V** on connection **3FB** of component **242**.  
Check the **insulation, continuity and the absence of interference resistance** of the following connection:  
– **3FB** between components **1047** and **242**,  
– **3GG** between components **120** and **242**.  
If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring. Otherwise replace the wiring.

If all the checks are correct, replace the downstream oxygen sensor, component code **242** (see **MR 388 or 451, Mechanical, 17B, Petrol injection, Oxygen sensors: Removal - Refitting**).

If the fault is still present, contact the Techline.

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| <b>AFTER REPAIR</b> | Follow the instructions to confirm repair.<br>Deal with any other faults.<br>Clear the <b>stored</b> faults. |
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| <b>DF085<br/>PRESENT<br/>OR<br/>STORED</b> | <b><u>FUEL PUMP RELAY CONTROL CIRCUIT</u></b><br>CO: Open circuit<br>CC.0: Short circuit to earth<br>CC.1: Short circuit to + 12 V |
|--|--|

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|--------------|--|
| <b>NOTES</b> | <b>Conditions for applying the fault finding procedure to a stored fault:</b><br>The fault is declared <b>present</b> after the ignition is switched on or when running command <b>AC015 Petrol pump relay</b> . |
|              | See the <b>Wiring Diagrams Technical Note for Logan, Sandero, Duster</b> .   |

|                    |              |  |
|--------------------|--------------|--|
| <b>CO<br/>CC.1</b> | <b>NOTES</b> | <b>Special notes:</b><br><b>OBD warning light and level 2 fault warning light illuminated.</b> |
| <b>CC.0</b>        | <b>NOTES</b> | None.  |

|   |
|---|
| Check the supply of the fuel supply pump relay control circuit with a test light by running command <b>AC015 Fuel pump relay</b> .  |
| Check the <b>cleanliness</b> and <b>condition</b> of the connector of the petrol pump relay, component code <b>236 (1047)</b> and of the injection computer connector, component code <b>120</b> .<br>If the connector or connectors are faulty and if there is a repair procedure (see <b>Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair</b> ), repair the connector(s), otherwise replace the wiring.                                    |
| Check the <b>insulation, continuity and absence of interference resistance</b> on the following connection:<br>– <b>3AC</b> between components <b>236 (1047)</b> and <b>120</b> ,<br>– <b>3NA</b> between components <b>236 (1047)</b> and <b>833</b> .<br>If the connection or connections are faulty and there is a repair procedure (see <b>Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair</b> ), repair the wiring, otherwise replace it. |
| Check the supply of the power circuit at the fuel supply pump relay output with a test light by running command <b>AC015 Fuel pump relay</b> . If the supply at the relay output is not correct, replace the petrol pump relay, component code <b>1047</b> (see <b>MR 388 or 451, Mechanical, 87G, Engine compartment connection unit, Engine compartment connection unit: List and location of components</b> ).   |
| If the fault is still present, contact the Techline.  |

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| <b>AFTER REPAIR</b> | Follow the instructions to confirm repair.<br>Deal with any other faults.<br>Clear the <b>stored</b> faults. |
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| <b>DF088<br/>PRESENT<br/>OR<br/>STORED</b> | <u>PINKING SENSOR CIRCUIT</u> |
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| <b>NOTES</b> | <b>Conditions for application to a stored fault:</b><br>The fault is declared <b>present</b> during a warm engine road test at an engine speed of more than <b>3500 rpm</b> .   |
|              | <b>Special notes:</b> <ul style="list-style-type: none"><li>– <b>The Level 1 warning light is illuminated.</b></li><li>– The wiring harness connecting the injection computer to the pinking sensor is shielded, therefore a short circuit at <b>+ 12V</b> is unlikely.</li></ul> |
|              | See the <b>Wiring Diagrams Technical Note for Logan, Sandero, Duster</b> .  |

Check the **cleanliness and condition** of the pinking sensor, component code **146** and its connector.  
If the connector is faulty and there is a repair method (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.  
Check the **tightness** of the pinking sensor (see **MR 388 or 451, Mechanical, 17B, Petrol injection, Petrol injection: List and location of components**).

Check the **cleanliness and condition** of the injection computer connections, component code **120**.  
If the connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the connector(s), otherwise, replace the wiring.

Check the internal resistance of the pinking sensor, component code **146**. The resistance value of the sensor must be: **X > 10M Ω**. If the value is not correct, replace the pinking sensor, component code **146** (see **MR 388, Mechanical, 17B, Petrol injection, Petrol injection: List and location of components** or **MR 451, Mechanical, 17B, Petrol injection, Pinking sensor: Removal - Refitting**).

Check the **continuity and insulation** of the following connections:

- **3S** between components **120** and **146**,
- **3DQ** between components **120** and **146**,
- **TB1** of component **120**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, **contact Techline**.

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| <b>AFTER REPAIR</b> | Follow the instructions to confirm repair.<br>Deal with any other faults.<br>Clear the <b>stored</b> faults. |
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# PETROL INJECTION

## Fault finding – Interpretation of faults

# 17B

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| <b>DF091<br/>PRESENT<br/>OR<br/>STORED</b> | <b>VEHICLE SPEED SIGNAL</b><br>1.DEF: Signal outside upper limit<br>2.DEF: Signal outside lower limit |
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| <b>NOTES</b> | <b>Conditions for applying the fault finding procedure to a stored fault:</b><br>The fault is considered <b>present</b> when the engine is running. |
|              | <b>2.DEF</b><br>Impossible to change the fault to <b>present</b> status; deal with the <b>stored</b> fault.   |
|              | See the <b>Wiring Diagrams Technical Note for Logan, Sandero, Duster</b> .  |

Check the **cleanliness** and **condition** of the connector of the vehicle speed sensor, component code **250** and of the injection computer connector, component code **120**.

If the connector or connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector(s), otherwise replace the wiring.

Check for **+ after ignition feed** using a multimeter on connection **3FB** of the vehicle speed sensor, component code **250**.

Check the **continuity and insulation** of the following connections:

- **3FB** between components **250** and **1047**,
- **47F** between components **120** and **250**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

Check the correct operation of the injection relay, component code **1047** (see **MR 388 or 451, Mechanical, 87G, Engine compartment connection unit, Engine compartment connection unit: List and location of components**).

If the checks are correct and the fault is still present, replace the vehicle speed sensor, component code **250**.

If the fault is still present, **contact Techline**.

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| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
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| <b>DF092<br/>PRESENT<br/>OR<br/>STORED</b> | <u>UPSTREAM OXYGEN SENSOR CIRCUIT</u><br>CC.1: Short circuit to + 12 V<br>CO: Open circuit<br>CC.0: Short circuit to earth<br>(---) |
|--|---|

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| <b>NOTES</b> | <b>Deal with the following faults first:</b><br>Only for <b>CC.1 - DF082 Upstream oxygen sensor heating circuit</b> .   |
|              | <b>Conditions for applying the fault finding procedure to a stored fault:</b><br>The fault is declared present: <ul style="list-style-type: none"> <li>– <b>CC.0</b> - engine idling</li> <li>– <b>CC.1</b> - engine idling for <b>&gt; 180 seconds</b></li> <li>– <b>CO</b> - engine idling</li> <li>– in the fourth case (---), it is impossible to change the fault to present status, deal with the stored fault</li> </ul> |
|              | <b>See the Wiring Diagrams Technical Note for Logan, Sandero, Duster.</b>   |

|                             |              |  |
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| <b>CO<br/>CC.1<br/>CC.0</b> | <b>NOTES</b> | <b>Special notes:</b><br><b>level 1 fault warning light illuminated.</b> |
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| <p>Check the <b>cleanliness</b> and <b>condition</b> of the connector of the upstream oxygen sensor, component code <b>887</b> and of the injection computer connector, component code <b>120</b>.</p> <p>If the connectors are faulty and if there is a repair procedure (see <b>Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair</b>), repair the connector, otherwise replace the wiring.</p>   |
| <p>Check the <b>insulation, continuity and the absence of interference resistance</b> on the following connections:</p> <ul style="list-style-type: none"> <li>– <b>3GH</b> between components <b>120</b> and <b>887</b>,</li> <li>– <b>3GK</b> between components <b>120</b> and <b>887</b>.</li> </ul> <p>If the connection or connections are faulty and there is a repair procedure (see <b>Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair</b>), repair the wiring, otherwise replace it.</p> |
| <p>If the fault is still present, contact the Techline.</p>   |

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| <b>AFTER REPAIR</b> | Follow the instructions to confirm repair.<br>Deal with any other faults.<br>Clear the <b>stored</b> faults. |
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| <b>DF092<br/>CONTINUED</b> |  |
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| (---) | <b>NOTES</b> | <b>Special notes:</b><br>Level 1 fault warning light illuminated.<br>Deal with the stored fault |
|-------|--------------|---|

Check the resistance of the upstream oxygen sensor. The value must be between  $7\ \Omega < X < 10\ \Omega$  and the sensor temperature must be  $X < 40^{\circ}\text{C}$ . If the value is not correct, replace the upstream oxygen sensor (see **MR 388 or 451, Mechanical, 17B, Petrol injection, Oxygen sensors: Removal – Refitting**).

Check that the programming of the TDC\* sensor is correct. (see **Replacement of components** section).

Run test **SC007 Run OBD test: O2 sensor** and start the engine (Only depress the brake pedal to authorise the starting of the engine).

At the end, check the test results:

**STATUS1**: Run the test again with the engine coolant temperature  $X > 90^{\circ}\text{C}$ .

**STATUS2** or **STATUS3**: Sensor OK.

**STATUS4**: Replace the upstream oxygen sensor (see **MR 388 or 451, Mechanical, 17B, Petrol injection, Oxygen sensors: Removal – Refitting**).

If the fault is still present, contact the Techline.

\*TDC: Top Dead Centre

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| <b>AFTER REPAIR</b> | Follow the instructions to confirm repair.<br>Deal with any other faults.<br>Clear the <b>stored</b> faults. |
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|--|--|
| <b>DF093<br/>PRESENT<br/>OR<br/>STORED</b> | <u>DOWNSTREAM OXYGEN SENSOR CIRCUIT</u><br>CC.1: Short circuit to + 12 V<br>CO: Open circuit<br>CC.0: Short circuit to earth |
|--|--|

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| <b>NOTES</b> | <b>Deal with the following faults first:</b><br>Only for <b>CC.1</b> and <b>CO</b> - <b>DF083 Downstream oxygen sensor heating circuit.</b>                                     |
|              | <b>Conditions for applying the fault finding procedure to a stored fault:</b><br>The fault is declared <b>present</b> :<br>– with the engine idling for <b>&gt; 300 seconds</b> |
|              | See the <b>Wiring Diagrams Technical Note for Logan, Sandero, Duster.</b>   |

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| <b>CC.1<br/>CC.0</b> | <b>NOTES</b> | <b>Special notes:</b><br><b>Level 1 fault warning light illuminated.</b> |
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| Check the <b>condition of the fuse</b> of the supply circuit for the downstream oxygen sensor, component code <b>242</b> .<br>If the fuse is faulty, check all the following steps and replace the fuse (see <b>MR 388 or 451, Mechanical, 81C, Fuses, Fuses: List and location of components</b> ).   |
| Check the <b>cleanliness</b> and <b>condition</b> of the injection computer connector, component code <b>120</b> and of the connector of the downstream oxygen sensor, component code <b>242</b> .<br>If the connector or connectors are faulty and if there is a repair procedure (see <b>Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair</b> ), repair the connector(s), otherwise replace the wiring.                           |
| Check the <b>insulation, continuity and the absence of interference resistance</b> on the following connections:<br>– <b>3GJ</b> between components <b>120</b> and <b>242</b> ,<br>– <b>3GL</b> between components <b>120</b> and <b>242</b> .<br>If the connection or connections are faulty and there is a repair procedure (see <b>Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair</b> ), repair the wiring, otherwise replace it. |
| If the fault is still present, replace the downstream oxygen sensor, component code <b>242</b> (see <b>MR 388 or 451, Mechanical, 17B, Petrol injection, Oxygen sensors: Removal – Refitting</b> ).  |
| If the fault is still present, contact the Techline.   |

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| <b>AFTER REPAIR</b> | Follow the instructions to confirm repair.<br>Deal with any other faults.<br>Clear the <b>stored</b> faults. |
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# PETROL INJECTION

## Fault finding – Interpretation of faults

# 17B

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| <b>DF093<br/>CONTINUED</b> |  |
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| <b>CO</b> | <b>NOTES</b> | <b>None.</b> |
|-----------|--------------|--------------|

Check the **condition of the fuse** of the supply circuit for the downstream oxygen sensor, component code **242**. If the fuse is faulty, check all the following steps and replace the fuse (see **MR 388 or 451, Mechanical, 81C, Fuses, Fuses: List and location of components**).

Read the stored speed within the context of the fault using **PR089 Vehicle speed**.  
If the value is **0**, drive the vehicle to reach a speed of **6 mph (10 km/h)** and check **PR089** again.  
If the value of this parameter is **0** whilst driving, apply the fault finding procedure for **DF091 Vehicle speed signal**, abandoning the steps described below. If **PR089** operates normally, follow the fault finding procedure for this fault.

Check the **cleanliness** and **condition** of the injection computer connector, component code **120** and of the connector of the downstream oxygen sensor, component code **242**.  
If the connector or connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector(s), otherwise replace the wiring.

Check the **insulation, continuity and the absence of interference resistance** on the following connections:  
– **3GJ** between components **120** and **242**,  
– **3GL** between components **120** and **242**.  
If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring. Otherwise replace the wiring.

If the fault is still present, replace the downstream oxygen sensor, component code **242** (see **MR 388 or 451, Mechanical, 17B, Petrol injection, Oxygen sensors: Removal – Refitting**).

If the fault is still present, contact the Techline.

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| <b>AFTER REPAIR</b> | Follow the instructions to confirm repair.<br>Deal with any other faults.<br>Clear the <b>stored</b> faults. |
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**DF095**  
**PRESENT**  
**OR**  
**STORED**

THROTTLE POTENTIOMETER CIRCUIT GANG 1  
1.DEF: Signal incoherent

**WARNING**

Never drive the vehicle without having confirmed that no faults involving the throttle valve are present.

**NOTES**

**Special notes:**  
**OBD warning light and level 1 fault warning light illuminate,**  
The throttle no longer operates.

See the **Wiring Diagrams Technical Note for Logan, Sandero, Duster.**

Check the **cleanliness** of the throttle valve, component code **1076** and that the throttle **rotates properly** (no resistance point)

Check the **cleanliness** and **condition** of the throttle valve connector.

If the connector is faulty and there is a repair method (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

Check the **cleanliness and condition** of the injection computer connector, component code **120**.

If the connector or connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector(s), otherwise replace the wiring.

Check the **insulation, continuity and the absence of interference resistance** on the following connections:

- **3MO** between components **120** and **1076**,
- **3MP** between components **120** and **1076**,
- **3MN** between components **120** and **1076**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If the throttle valve has been replaced, reinitialise the programming by running command **RZ031 Throttle stop programming**.

If the fault is still present, **contact Techline**.

**AFTER REPAIR**

Follow the instructions to confirm repair.  
Deal with any other faults.  
Clear the **stored** faults.

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| <b>DF096<br/>PRESENT<br/>OR<br/>STORED</b> | <b>THROTTLE POSITION POTENTIOMETER CIRCUIT GANG 2</b><br>1.DEF: Signal incoherent |
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**WARNING**

Never drive the vehicle without having confirmed that no faults involving the throttle valve are present.

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| <b>NOTES</b> | <b>Deal with the following faults first:</b><br><b>DF011 Sensor supply voltage no. 1.</b>  |
|              | <b>Special notes:</b><br><b>OBD warning light and level 1 fault warning light illuminate,</b><br>The throttle no longer operates |
|              | <b>See the Wiring Diagrams Technical Note for Logan, Sandero, Duster.</b>  |

Check the **cleanliness** of the throttle valve, component code **1076** and that the throttle **rotates properly** (no resistance point).

Check the **cleanliness** and **condition** of the injection computer connector, component code **120** and of the throttle valve connector, component code **1076**.

If the connector or connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector(s), otherwise replace the wiring.

Check the **insulation, continuity and the absence of interference resistance** on the following connections:

- **3MQ** between components **120** and **1076**,
- **3MN** between components **120** and **1076**,
- **3MO** between components **120** and **1076**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If the throttle valve has been replaced, reinitialise the programming by running command **RZ031 Throttle stop programming**.

If the fault is still present, **contact Techline**.

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| <b>AFTER REPAIR</b> | Follow the instructions to confirm repair.<br>Deal with any other faults.<br>Clear the <b>stored</b> faults. |
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| <b>DF101<br/>PRESENT<br/>OR<br/>STORED</b> | <u>MULTIPLEX ELECTRONIC STABILITY PROGRAM LINK</u><br>1.DEF: Invalid multiplex signals generated by computer |
|--|--|

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| <b>NOTES</b> | None |
|--------------|------|

Test the ABS computer (see **38C, Anti-lock braking system**).

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| <b>AFTER REPAIR</b> | Follow the instructions to confirm repair.<br>Deal with any other faults.<br>Clear the <b>stored</b> faults. |
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| <b>DF102<br/>PRESENT<br/>OR<br/>STORED</b> | <u>ALTERNATOR POWER SIGNAL AVAILABLE</u><br>1.DEF: Below minimum threshold. |
|--|---|

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| <b>NOTES</b> | <b>Special notes:</b><br>OBD warning light illuminated.            |
|              | See the Wiring Diagrams Technical Note for Logan, Sandero, Duster. |

Check the **cleanliness** and **condition** of the alternator connector, component code **103** and of the injection computer connector, component code **120**.  
If the connector or connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector(s), otherwise replace the wiring.

Check the **insulation, continuity and the absence of interference resistance** on the following connection.  
– **2K** between components **103** and **120**.  
If the connection is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

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| <b>AFTER REPAIR</b> | Follow the instructions to confirm repair.<br>Deal with any other faults.<br>Clear the <b>stored</b> faults. |
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| <b>DF109<br/>PRESENT<br/>OR<br/>STORED</b> | <u>LOW FUEL LEVEL MISFIRING</u><br>1.DEF: Polluting misfiring<br>2.DEF: Destructive misfiring |
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| <b>NOTES</b> | <b>Conditions for applying the fault finding procedure to a stored fault:</b><br>The fault is <b>present</b> after starting the engine and under the following conditions:<br>– engine running at idling speed |
|              | <b>Special note:</b><br><b>Level 1 fault warning light illuminated.</b>  |

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| <b>1.DEF</b> | <b>NOTES</b> | None. |
|--------------|--------------|-------|

Check the presence and conformity of the fuel in the tank (see **Test 19 Checking the conformity of the fuel**).  
 Check the ignition coil circuit (see **MR 388, Mechanical, 17A, Ignition, Ignition: Specifications**),  
 Check the fuel supply circuit (see **MR 388 or 451, Mechanical, 13A, Fuel supply, Fuel circuit: Operating diagram**),  
 Check the fuel supply pump circuit (see **MR 388 or 451, Mechanical, 13A, Fuel supply, Fuel circuit: Operating diagram**),  
 Check the condition of the injectors (see **MR 388, Mechanical, 13A, Fuel supply, Injector rail - Injectors: Removal – Refitting or MR 451, Mechanical, 17B, Petrol injection, Injector rail - Injectors: Removal – Refitting**),  
 Check the cylinder compressions.

After repair, check that the catalytic converter is not damaged by the misfire.  
 To do this, switch on the ignition, run the catalytic converter test **SC006 Run OBD test: Catalytic converter** and start the engine (only depress the brake pedal to authorise the starting of the engine, do not touch the accelerator pedal or clutch pedal).  
 At the end, check the test results:  
**STATUS1:** Fault finding was not performed/impossible to obtain the necessary conditions  
**STATUS2:** The component is in an average condition - sensor OK  
**STATUS3:** The component is in a good condition - sensor OK  
**STATUS4:** The component is in a poor condition - replace the catalytic converter (see **MR 388 or 451, Mechanical, 19B, Exhaust, Catalytic converter: Removal - Refitting**).

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| <b>AFTER REPAIR</b> | Check that all faults have been dealt with.<br>Do not clear the programming.<br>To check that the system has been repaired correctly:<br>– there must be no further electrical faults,<br>– programming has been carried out,<br>– warm engine (minimum <b>75°C</b> ),<br>– running at idle speed with all electrical consumers drawing power for 15 minutes.<br>If the fault reappears, continue the fault finding procedure. |
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# PETROL INJECTION

## Fault finding – Interpretation of faults

17B

|                    |  |
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| DF109<br>CONTINUED |  |
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|-------|-------|-------|
| 2.DEF | NOTES | None. |
|-------|-------|-------|

Check the presence and conformity of the fuel in the tank (see **Test 19 Checking the conformity of the fuel**).  
Check the ignition coil circuit (see **MR 388, Mechanical, 17A, Ignition, Ignition: Specifications**),  
Check the fuel supply circuit (see **MR 388 or 451, Mechanical, 13A, Fuel supply, Fuel circuit: Operating diagram**),  
Check the fuel supply pump circuit (see **MR 388 or 451, Mechanical, 13A, Fuel supply, Fuel circuit: Operating diagram**),  
Check the condition of the injectors (see **MR 388, Mechanical, 13A, Fuel supply, Injector rail - Injectors: Removal – Refitting or MR 451, Mechanical, 17B, Petrol injection, Injector rail - Injectors: Removal – Refitting**),  
Check the cylinder compressions.

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| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
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| <b>DF120<br/>PRESENT<br/>OR<br/>STORED</b> | <u>ENGINE SPEED SENSOR SIGNAL</u><br>1.DEF: Inconsistent signal.<br>3.DEF: Interference.<br>4.DEF: Incorrect number of teeth. |
|--|---|

|              |  |
|--------------|--|
| <b>NOTES</b> | <b>Conditions for applying the fault finding procedure to a stored fault:</b><br>The fault is <b>present</b> after starting the engine and under the following conditions:<br>– engine running at idling speed |
|              | <b>Special note:</b><br><b>OBD warning light and level 1 fault warning light illuminated.</b>  |
|              | See the <b>Wiring Diagrams Technical Note for Logan, Sandero, Duster.</b>  |

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| <p>Check the connection and condition of the connector of the <b>crankshaft position sensor</b>, component code <b>149</b> and of the <b>injection computer</b> connector, component code <b>120</b>.<br/>           If the connectors are faulty and if there is a repair procedure (see <b>Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair</b>), repair the connector, otherwise replace the wiring.</p>  |
| <p>Measure the <b>resistance</b> of the <b>crankshaft position sensor</b> component code <b>149</b> between connections <b>3BL</b> and <b>3BG</b> on the <b>injection computer</b> connector, component code <b>120</b>.<br/>           If the <b>resistance</b> of the <b>crankshaft position sensor</b> is not between <math>175\ \Omega \leq X \leq 295\ \Omega</math> (between 0°C and 40°C), replace the <b>crankshaft position sensor</b> (see <b>MR 388 or 451, Mechanical, 17B, Petrol injection, Crankshaft position sensor: Removal - Refitting</b>).</p> |
| <p>Check the <b>insulation</b> and <b>continuity</b> of the following connections:<br/>           – <b>3BG</b> between components <b>149</b> and <b>120</b>,<br/>           – <b>3BL</b> between components <b>149</b> and <b>120</b>.<br/>           If the connection or connections are faulty and there is a repair procedure (see <b>Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair</b>), repair the wiring, otherwise replace it.</p>   |
| <p>Check that the <b>58</b> teeth of the <b>flywheel</b> target are not damaged or broken.</p>  |
| <p>Check that the target is securely mounted on the <b>flywheel</b> (see <b>MR 388 or 451, Mechanical, 10A, Engine and cylinder block assembly, Flywheel: Removal - Refitting</b>): check the tightening torque and that there is no angular play or movement in relation to the target shaft</p>   |
| <p>If the fault is still present, contact the Techline.</p>   |

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| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
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| <b>DF342<br/>PRESENT<br/>OR<br/>STORED</b> | <u>MALFUNCTION INDICATOR LIGHT CIRCUIT</u><br>1.DEF: Voltage too low.<br>2.DEF: Voltage too high. |
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| <b>NOTES</b> | Deal with the other faults <b>first</b> .                                 |
|              | <b>See the Wiring Diagrams Technical Note for Logan, Sandero, Duster.</b> |

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| Test the <b>OBD warning light</b> using a test warning light when switching on the ignition.<br>If the test warning light illuminates for a few seconds, replace the faulty warning light (see <b>MR 388 or 451, Mechanical, 83A, Instrument panel, Instrument panel, Removal - Refitting</b> ).  |
| Check the continuity, insulation, and the absence of interference resistance on the following connection:<br>– <b>137C</b> between components <b>120</b> and <b>247</b> .<br>If the connection is faulty and there is a repair procedure (see <b>Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair</b> ), repair the wiring, otherwise replace it. |
| If the fault is still present, contact the Techline.  |

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| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
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| <b>DF361<br/>PRESENT<br/>OR<br/>STORED</b> | <u>IGNITION COIL 1 - 4 CIRCUIT</u><br>CC.0: Short circuit to earth<br>CC.1: Short circuit to + 12 V<br>CO: Open circuit |
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| <b>NOTES</b> | <b>Conditions for applying the fault finding procedure to a stored fault:</b><br>The fault is <b>present</b> after starting the engine and under the following conditions:<br>– engine running at idling speed |
|              | <b>Special note:</b><br>For CC.1 and CO, the OBD warning light and level 1 fault warning light illuminate,<br>For CC.0, the OBD warning light and level 2 fault warning light illuminate.                      |
|              | <b>See the Wiring Diagrams Technical Note for Logan, Sandero, Duster.</b>  |
|              | <b>The D4D and K7M engines are equipped with a quadruple ignition coil module.</b><br><b>The K4M engine is equipped with 4 "pencil" type coils.</b>  |

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| <b>D4D and K7M engines</b> |
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| <p>Check the cleanliness and condition of the injection computer connector, component code <b>120</b> and of the coil connector, component code <b>778</b>.</p> <p>If the connector or connectors are faulty and if there is a repair procedure (see <b>Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair</b>), repair the connector, otherwise replace the wiring.</p>   |
| <p>Check the <b>insulation, continuity and the absence of interference resistance</b> on the following connections:</p> <ul style="list-style-type: none"> <li>– <b>3CV</b> between components <b>120</b> and <b>778</b>,</li> <li>– <b>3CW</b> between components <b>120</b> and <b>778</b>.</li> </ul> <p>If the connection or connections are faulty and there is a repair procedure (see <b>Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair</b>), repair the wiring, otherwise replace it.</p> |
| <p>With the ignition on, check the supply of the ignition coil, component code <b>778</b> using a test light on connection <b>3NA</b>.</p>  |
| <p>Check the <b>insulation, continuity and the absence of interference resistance</b> on the following connection:</p> <ul style="list-style-type: none"> <li>– <b>3NA</b> between components <b>1047</b> and <b>778</b>.</li> </ul> <p>If the connection is faulty and if there is a repair procedure (see <b>Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair</b>), repair the wiring, otherwise replace it.</p>  |
| <p>If the fault is still present, contact the Techline.</p>   |

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| <b>AFTER REPAIR</b> | <p>Follow the instructions to confirm repair.</p> <p>Deal with any other faults.</p> <p>Clear the <b>stored</b> faults.</p> |
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**DF361  
CONTINUED**

**K4M engine**

Check the cleanliness and condition of the pencil coil no.1 connector, component code **1077**, of the pencil coil no.4 connector, component code **1080** and of the injection computer connector, component code **120**.

If the connector or connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

Check the **insulation, continuity and the absence of interference resistance** on the following connections:

- **3CZ** between components **120** and **1077**,
- **3CV** between components **1077** and **1080**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring. Otherwise replace the wiring.

With the ignition on, check the supply of the pencil ignition coils, component code **1077** and **1080** using a test light on connection **3NA** of the injection relay, component code **1047**.

Check the **insulation, continuity and the absence of interference resistance** on the following connection:

- **3NA** between components **1080** and **1047**.

If the connection is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

**AFTER REPAIR**

Follow the instructions to confirm repair.  
Deal with any other faults.  
Clear the **stored** faults.

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| <b>DF362<br/>PRESENT<br/>OR<br/>STORED</b> | <b><u>IGNITION COIL 2-3 CIRCUIT</u></b><br>CC.0: Short circuit to earth<br>CC.1: Short circuit to + 12 V<br>CO: Open circuit |
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| <b>NOTES</b> | <b>Conditions for applying the fault finding procedure to a stored fault:</b><br>The fault is <b>present</b> after starting the engine and under the following conditions:<br>– engine running at idling speed                               |
|              | <b>Special note:</b><br>For <b>CC.1</b> and <b>CO</b> , the <b>OBD warning light</b> and <b>level 1 fault warning light</b> illuminate.<br>For <b>CC.0</b> , the <b>OBD warning light</b> and <b>level 2 fault warning light</b> illuminate. |
|              | See the <b>Wiring Diagrams Technical Note for Logan, Sandero, Duster</b> .   |
|              | The <b>D4D</b> and <b>K7M</b> engines are equipped with a quadruple ignition coil module.<br>The <b>K4M</b> engine is equipped with 4 "pencil" type coils.   |

### D4D and K7M engines

Check the cleanliness and condition of the injection computer connector, component code **120** and of the coil connector, component code **778**.  
If the connector or connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

Check the **insulation, continuity and the absence of interference resistance** on the following connections:  
– **3CV** between components **120** and **778**,  
– **3CW** between components **120** and **778**.  
If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

With the ignition on, check the supply of the ignition coil, component code **778** using a test light on connection **3NA**.

Check the **insulation, continuity and the absence of interference resistance** on the following connection:  
– **3NA** between components **1047** and **778**.  
If the connection is faulty and if there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

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| <b>AFTER REPAIR</b> | Follow the instructions to confirm repair.<br>Deal with any other faults.<br>Clear the <b>stored</b> faults. |
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**DF362  
CONTINUED**

**K4M engine**

Check the cleanliness and condition of the injection computer connector, component code **120**, of the pencil coil no.2 connector, component code **1078** and of the pencil coil no.3 connector, component code **1079**.

If the connector or connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

Check the **insulation, continuity and the absence of interference resistance** on the following connections:

- **3CP** between components **120** and **1078**,
- **3CW** between components **1078** and **1079**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring. Otherwise replace the wiring.

With the ignition on, check the supply of the ignition coils, component code **1078** and **1079** using a test light on connection **3NA** of the injection relay, component code **1047**.

Check the **insulation, continuity and the absence of interference resistance** on the following connection:

- **3NA** between components **1079** and **1047**.

If the connection is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

**AFTER REPAIR**

Follow the instructions to confirm repair.  
Deal with any other faults.  
Clear the **stored** faults.

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| <b>DF394<br/>PRESENT<br/>OR<br/>STORED</b> | <b><u>CATALYTIC CONVERTER OPERATING FAULT</u></b><br>1.DEF: Component in bad condition |
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| <b>NOTES</b> | <b>Priority when dealing with a number of faults:</b><br>Deal with the other faults first.<br>There must be no other injection system faults, either <b>present</b> or <b>stored</b> . <ul style="list-style-type: none"><li>– <b>DF081 - Canister bleed solenoid valve circuit</b></li><li>– <b>DF120 - Engine speed sensor signal</b></li><li>– <b>DF361 - Ignition coil 1-4 circuit</b></li><li>– <b>DF362 - Ignition coil 2-3 circuit</b></li><li>– <b>DF026 - Cylinder 1 injector control circuit</b></li><li>– <b>DF027 - Cylinder 2 injector control circuit</b></li><li>– <b>DF028 - Cylinder 3 injector control circuit</b></li><li>– <b>DF029 - Cylinder 4 injector control circuit</b></li><li>– <b>DF092 - Upstream oxygen sensor circuit</b></li><li>– <b>DF082 - Upstream oxygen sensor heating circuit</b></li><li>– <b>DF093 - Downstream oxygen sensor circuit</b></li><li>– <b>DF002 - Air temperature sensor circuit</b></li><li>– <b>DF001 - Coolant temperature sensor circuit</b></li></ul> |
|              | <b>Conditions for applying the fault finding procedure to a stored fault:</b><br>The fault is not declared <b>present</b> , deal with the <b>stored</b> fault.  |
|              | <b>Special note:</b><br><b>Level 1 fault warning light illuminated.</b>   |

Check the **downstream oxygen sensor** (see **MR 388 or 451, Mechanical, 17B, Petrol injection, Oxygen sensors: Removal - Refitting**).

Check the programming of the **TDC\* sensor** (see Section: **Replacement of components**)

Run the catalytic converter test **SC006 Run OBD test: Catalytic converter** and start the engine (only depress the brake pedal to authorise the starting of the engine, do not touch the accelerator pedal or clutch pedal).

At the end, check the test results:

**STATUS1:** Fault finding was not performed/impossible to obtain the necessary conditions

**STATUS2:** The component is in an average condition - sensor OK

**STATUS3:** The component is in a good condition - sensor OK

**STATUS4:** The component is in a poor condition - replace the catalytic converter (see **MR 388 or 451, Mechanical, 19B, Exhaust, Catalytic converter: Removal - Refitting**).

If the fault is still present, contact the Techline.

\*TDC: Top Dead Centre

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| <b>AFTER REPAIR</b> | Follow the instructions to confirm repair.<br>Deal with any other faults.<br>Clear the <b>stored</b> faults. |
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| <b>DF398<br/>PRESENT<br/>OR<br/>STORED</b>  | <u><b>FUEL CIRCUIT OPERATING FAULT</b></u><br>1.DEF: Component in poor condition.   |
| <b>NOTES</b>  | <b>Priority when dealing with a number of faults:</b><br>Deal with the other faults first.<br>– <b>DF085 - Fuel pump relay control circuit</b>  |
|   | <b>Conditions for applying the fault finding procedure to a stored fault:</b><br>The fault is declared <b>present</b> with the engine running at an engine speed of <b>2500 rpm</b> for <b>10 seconds</b> . |
|   | <b>Special note:</b><br><b>OBD warning light illuminated.</b>   |
| <p>Check the value of parameter <b>PR139 Operating richness adaptive</b>.</p> <p>If the value of <b>PR139 &lt; 1</b> then:</p> <p>Check the sealing of the fuel supply system from the fuel pump to the injector rail:</p> <ul style="list-style-type: none"> <li>– The fuel tank (see <b>MR 388 or 451, Mechanical, 19C, Tank, Fuel tank: Removal - Refitting</b>),</li> <li>– The connection between the fuel pump and the fuel filter (see <b>MR 388 Mechanical, 19C, Tank, Fuel supply pipe: Removal – Refitting</b> or <b>MR 451 Mechanical, 19C, Tank, Fuel tank: Removal - Refitting</b>),</li> <li>– The connection between the fuel filter and the regulator (see <b>MR 388 or 451, Mechanical, 13A, Fuel supply, Fuel filter: Removal - Refitting</b>),</li> <li>– The pressure regulator ducts (see <b>MR 388 Mechanical, 19C, Tank, Fuel supply pipe: Removal – Refitting</b> or <b>MR 451 Mechanical, 19C, Tank, Fuel tank: Removal - Refitting</b>),</li> <li>– The connection between the regulator and the injector rail (see <b>MR 388 Mechanical, 19C, Tank, Fuel supply pipe: Removal - Refitting</b> or <b>MR 451 Mechanical, 19C, Tank, Fuel tank: Removal - Refitting</b>),</li> <li>– The fuel ducts between the injector rail and the injectors (see <b>MR 388 Mechanical, 13A, Fuel supply, Injector rail - Injectors: Removal - Refitting</b> or <b>MR 451 Mechanical, 17B, Petrol injection, Injector rail - Injectors: Removal - Refitting</b>),</li> <li>– Check the fuel filter (to detect possible clogging) (see <b>MR 388 or 451, Mechanical, 13A, Fuel supply, Fuel filter: Removal - Refitting</b>),</li> <li>– Check the pressure regulator,</li> <li>– Check the fuel pump flow (see <b>MR 388 Mechanical, 13A, Fuel supply, Fuel flow: Removal – Refitting</b> or <b>MR 451 Mechanical, 13A, Fuel supply, Fuel flow: Check</b>),</li> <li>– Check the injector flow (see <b>MR 388, Mechanical, 13A, Fuel supply, Injector rail - Injectors: Removal – Refitting</b> or <b>MR 451, Mechanical, 17B, Petrol injection, Injector rail - Injectors: Removal – Refitting</b>).</li> </ul> |   |

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| <b>AFTER REPAIR</b> | Follow the instructions to confirm repair.<br>Deal with any other faults.<br>Clear the <b>stored</b> faults. |
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**DF398**  
**CONTINUED**

If the value of **PR139 > 1** then:

- Check the pressure regulator,
- Check the connections on the inlet manifold (see **MR 388 or 451, Mechanical, 12A, Fuel mixture, Air inlet: Description**),
- Check for possible petrol leaks (see **ALP4 Fuel leak**),
- Check for possible air leaks,
- Check the injector sealing (see **MR 388, Mechanical, 13A, Fuel supply, Injector rail - Injectors: Removal – Refitting** or **MR 451, Mechanical, 17B, Petrol injection, Injector rail - Injectors: Removal – Refitting**),
- Check the seal between the inlet manifold and the solenoid valve unit.

If the fault is still present, contact the Techline.

**AFTER REPAIR**

Follow the instructions to confirm repair.  
Deal with any other faults.  
Clear the **stored** faults.

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| <b>DF409<br/>PRESENT<br/>OR<br/>STORED</b> | <u>FUEL LEVEL SENSOR CIRCUIT</u><br>1.DEF: Voltage too low<br>2.DEF: Voltage too high |
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| <b>NOTES</b> | <b>Special notes:</b><br>OBD warning light illuminated.            |
|              | See the Wiring Diagrams Technical Note for Logan, Sandero, Duster. |

Check the cleanliness and condition of the injection computer connector, component code **120** and of the instrument panel connector, component code **247**.

If the connector or connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

Check the **insulation, continuity and the absence of interference resistance** on the following connections:

- **47H** between components **120** and **247**,
- **3NX** between components **120** and **247**,
- **137C** between components **120** and **247**,
- **31A** between components **120** and **247**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

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| <b>AFTER REPAIR</b> | Follow the instructions to confirm repair.<br>Deal with any other faults.<br>Clear the <b>stored</b> faults. |
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# PETROL INJECTION

## Fault finding – Interpretation of faults

# 17B

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| <b>DF457<br/>PRESENT<br/>OR<br/>STORED</b> | <b>FLYWHEEL TARGET</b><br>1.DEF: Component in bad condition |
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| <b>NOTES</b> | <b>Conditions for applying the fault finding procedure to a stored fault:</b><br>The fault is declared <b>present</b> with the engine running, <b>engine speed &gt; 3500 rpm</b> . |
|              | <b>Special notes:</b><br><b>OBD warning light illuminated.</b>   |
|              | <b>See the Wiring Diagrams Technical Note for Logan, Sandero, Duster.</b>  |

Check the cleanliness and condition of the injection computer connector, component code **120** and of the TDC\* sensor connector, component code **149**.

If the connector or connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

Measure the **resistance** of the **TDC\* sensor** component code **149** between connections **3BL** and **3BG** on the **injection computer** connector, component code **120**.

If the **resistance** of the **crankshaft position sensor** is not between  $175 \Omega \leq X \leq 295 \Omega$  (between  $0^{\circ}\text{C}$  and  $40^{\circ}\text{C}$ ), replace the **crankshaft position sensor** (see **MR 388 or 451, Mechanical, 17B, Petrol injection, Crankshaft position sensor: Removal - Refitting**).

Check the **insulation, continuity and the absence of interference resistance** on the following connections:

- **3BG** between components **120** and **149**,
- **3BL** between components **120** and **149**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

Check the **cleanliness** and **condition** of the flywheel (see **MR 388 or 451, Mechanical, 10A, Engine and cylinder block assembly, Flywheel: Removal - Refitting**).

If the fault is still present, contact the Techline.

\*TDC: Top Dead Centre

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| <b>AFTER REPAIR</b> | Follow the instructions to confirm repair.<br>Deal with any other faults.<br>Clear the <b>stored</b> faults. |
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V42\_V04\_DF457 / V42\_V06\_DF457

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| <b>DF532<br/>PRESENT<br/>OR<br/>STORED</b> | <u>ALTERNATOR CHARGE SIGNAL</u><br>1.DEF: Voltage too low<br>2.DEF: Voltage too high |
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| <b>NOTES</b> | <b>Conditions for applying the fault finding procedure to a stored fault:</b><br>The fault is present with the engine idling. |
|              | <b>Special notes:</b><br>The OBD warning light is lit.  |
|              | See the Wiring Diagrams Technical Note for Logan, Sandero, Duster.  |

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| Check the <b>cleanliness</b> and <b>condition</b> of the alternator connector, component code <b>103</b> and of the injection computer connector, component code <b>120</b> .<br>If the connector or connectors are faulty and if there is a repair procedure (see <b>Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair</b> ), repair the connector(s), otherwise replace the wiring. |
| Check the <b>insulation, continuity and the absence of interference resistance</b> on the following connection.<br>– <b>2K</b> between components <b>103</b> and <b>120</b> .<br>If the connection is faulty and there is a repair procedure (see <b>Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair</b> ), repair the wiring, otherwise replace it.                                   |
| If the connection is correct, replace the alternator, component code <b>103</b> (see <b>MR 388 or 451, Mechanical, 16A, Starting - Charging, Alternator: Removal - Refitting</b> ).   |
| If the fault is still present, contact the Techline.  |

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| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
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| <b>DF556<br/>PRESENT<br/>OR<br/>STORED</b> | <b><u>PEDAL/THROTTLE POSITION CONSISTENCY</u></b><br>1.DEF: Signal incoherent<br>2.DEF: Micro-break detected |
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| <b>NOTES</b> | The inlet throttle valve no longer operates.  |
|              | <b>Special notes:</b><br>For 1.DEF, the OBD and level 1 fault warning lights are illuminated. |
|              | See the Wiring Diagrams Technical Note for Logan, Sandero, Duster.                            |

Check the **cleanliness** and **condition** of the injection computer connector, component code **120** and of the damper valve connector, component code **1076** (see **MR 388 or 451, Mechanical, 17B, Petrol injection, Petrol injection computer: Removal - Refitting**).

If the connector or connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector(s), otherwise replace the wiring.

Check the **insulation, continuity and the absence of interference resistance** on the following connections:

- **3AJB** between components **1076** and **120**,
- **3AJC** between components **1076** and **120**.

If the connection or connections are faulty and if there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace the wiring.

If the fault is still present, contact the Techline.

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| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
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| <b>DF631<br/>PRESENT<br/>OR<br/>STORED</b>   | <b><u>BRAKE LIGHT SWITCH SIGNAL</u></b><br>1.DEF: Inconsistent signal.   |
| <b>NOTES</b>   | <b>Conditions for application to a stored fault:</b><br>The fault is declared <b>present</b> when the engine is <b>idling</b> .<br>The fault is declared <b>present</b> :<br>– After depressing the pedal at least <b>10 times</b> . |
|  | See the <b>Wiring Diagrams Technical Note for Logan, Sandero, Duster</b> .   |
| With the brake pedal released, check <b>ET039 Brake pedal</b> and <b>ET799 Brake wire contact</b> .<br>Check that <b>ET039</b> is <b>Released</b> and <b>ET799</b> is <b>Inactive</b> .  |  |
| Check the fitting and mechanical operation of the brake pedal (the pedal returns properly).<br>If the check is incorrect, check the braking system.  |  |
| Remove the <b>brake pedal switch</b> , component code <b>160</b> (see <b>MR 388 or 451, Mechanical, 37A, Mechanical component controls, Brake pedal switch: Removal - Refitting</b> ) and, without action on the pedal, press sufficiently on the <b>brake pedal switch</b> to seat it completely in its position.<br>Lock it by turning it a quarter of a turn anti-clockwise.<br>The fault should change from <b>present</b> to <b>stored</b> .  |  |
| While depressing the brake pedal to the end of travel, check <b>ET039</b> and <b>ET799</b> .<br><b>ET039</b> must be <b>depressed</b> and <b>ET799</b> must be <b>active</b> .<br>If the statuses are correct, contact the Techline.   |  |
| With the brake pedal <b>depressed</b> , measure the <b>resistance</b> of the <b>brake pedal switch</b> , component code <b>160</b> between connections <b>AP1</b> and <b>65A</b> , the value must be <b><math>X &gt; 10\text{ M}\Omega</math></b> .<br>If the <b>resistance</b> is not correct, replace the <b>brake pedal switch</b> , component code <b>160</b> (see <b>MR 388 or 451, Mechanical, 37A, Mechanical component controls, Brake pedal switch: Removal - Refitting</b> ).<br>- With the brake pedal <b>released</b> , measure the <b>resistance</b> of the <b>brake pedal switch</b> , component code <b>160</b> between connections <b>AP1</b> and <b>5A</b> , the value must be between <b><math>0\ \Omega &lt; X \leq 1\ \Omega</math></b> .<br>If the <b>resistance</b> is not correct, replace the <b>brake pedal switch</b> , component code <b>160</b> (see <b>MR 388, Mechanical, 37A, Mechanical component controls, Brake pedal switch: Removal - Refitting</b> ). |  |
| Check the <b>brake pedal switch</b> connector, component code <b>160</b> (see <b>MR 388 or 451, Mechanical, 37A, Mechanical component controls, Brake pedal switch: Removal - Refitting</b> ).<br>If the connector is faulty and if there is a repair procedure (see <b>Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair</b> ), repair the connector, otherwise replace the wiring   |  |
| Check fuse <b>F03 (10 A)</b> and replace it if necessary.  |  |
| Check the <b>insulation, continuity and the absence of interference resistance</b> on the following connections:<br>– <b>AP1</b> between components <b>160</b> and <b>1016</b> ,<br>– <b>5A</b> between components <b>160</b> and <b>120</b> ,<br>– <b>65A</b> between components <b>160</b> and <b>120</b> .<br>If the connection or connections are faulty and there is a repair procedure (see <b>Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair</b> ), repair the wiring, otherwise replace it.  |  |
| If the fault is still present, contact the Techline.   |  |

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| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
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**DF648  
PRESENT  
OR  
STORED**

COMPUTER

**NOTES**

**Special notes:**  
The OBD and Level 2 fault warning lights are illuminated.

Contact the Techline.

**AFTER REPAIR**

Deal with any faults displayed by the **diagnostic tool**.  
Clear the computer fault memory.  
Carry out a road test followed by another check with the **diagnostic tool**.



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| <b>DF721<br/>PRESENT<br/>OR<br/>STORED</b> | <u><b>ENGINE OVERHEATING</b></u><br>1.DEF: Operating temperature too high. |
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| <b>NOTES</b> | <b>Deal with the stored fault.</b>   |
|              | <b>Special notes:</b><br>After this fault appears:<br><b>The level 1 warning light is illuminated.</b><br><b>The overheating warning light is illuminated.</b> |

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| Check the <b>engine cooling system</b> (see <b>MR 388 or 451, Mechanical, 19A, Cooling, Engine cooling system: Check</b> ). |
| Check the coolant temperature sensor by applying <b>TEST 15 Checking the coolant temperature sensor</b> .                   |
| Check the correct operation of the engine cooling fans (see <b>Test 16 Checking the fan relay</b> ).                        |
| If the fault is still present, contact the Techline.  |

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| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
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# PETROL INJECTION

## Fault finding – Interpretation of faults

17B

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| <b>DF884<br/>PRESENT<br/>OR<br/>STORED</b> | <b><u>ADDITIONAL FUEL CIRCUIT PUMP RELAY</u></b><br>CC.0: Short circuit to earth<br>CC.1: Short circuit to + 12 V<br>CO: Open circuit |
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| <b>NOTES</b> | <b>Conditions for application to a stored fault:</b><br>The fault is declared <b>present</b> after running command <b>AC224 Additional fuel circuit pump relay</b> . |
|              | See the <b>Wiring Diagrams Technical Note for Logan, Sandero</b> .   |

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| Check the supply of the control circuit of the additional fuel supply pump relay with a test light by running command <b>AC224 Additional petrol circuit pump relay</b> .   |
| Check the <b>cleanliness</b> and <b>condition</b> of the connector of the additional petrol pump relay, component code <b>1639</b> and of the injection computer connector, component code <b>120</b> .<br>If the connector or connectors are faulty and if there is a repair procedure (see <b>Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair</b> ), repair the connector(s), otherwise replace the wiring.                             |
| Check the <b>insulation, continuity and absence of interference resistance</b> on the following connection:<br>– <b>3ACK</b> between components <b>1639</b> and <b>120</b> ,<br>– <b>3FB</b> between components <b>1639</b> and <b>1047</b> .<br>If the connection or connections are faulty and there is a repair procedure (see <b>Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair</b> ), repair the wiring. Otherwise replace the wiring. |
| Check the supply of the power circuit of the additional fuel supply pump relay with a test light by running command <b>AC224 Additional petrol circuit pump relay</b> . If the check is correct, replace the pump, component code <b>1639</b> (see <b>MR 388, Mechanical, 19C, Tank, Additional fuel system petrol pump: Removal - Refitting</b> ).   |
| If the fault is still present, contact the Techline.  |

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| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
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V42\_V04\_DF884 / V42\_V06\_DF884

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| <b>DF887<br/>PRESENT<br/>OR<br/>STORED</b>  | <b><u>BRAKE - ACCELERATOR PEDAL POSITION</u></b><br>1.DEF: Jammed accelerator pedal detected.<br>2.DEF: Jammed accelerator pedal detected.<br>3.DEF: Inconsistency between pedal gang 1 and gang 2.<br>4. DEF: Fault on pedal potentiometer gangs 1 and 2. |       |
| <b>NOTES</b>  | <b>Conditions for application to a stored fault:</b><br>The fault is declared <b>present</b> after the ignition is switched on or with the engine running.<br>Deal with the stored faults ( <b>1.DEF</b> , <b>2.DEF</b> only).                             |       |
|   | <b>Special notes:</b><br>After this fault appears:<br><b>For 3.DEF, the OBD and level 1 warning lights are illuminated.</b><br><b>For 2.DEF, the OBD and level 2 warning lights are illuminated.</b>   |       |
| <b>1.DEF<br/>2.DEF</b>  | <b>NOTES</b>   | None. |
| Check that the accelerator pedal is not jammed and that there is nothing impeding its operation (floor carpet, etc.).   |  |       |
| Run <b>TEST 9 Brake pedal switch check</b> .  |  |       |
| Run <b>TEST 8 Accelerator pedal potentiometer check</b> .   |  |       |
| If the fault is still present, contact the Techline.  |  |       |
| <b>3.DEF</b>  | <b>NOTES</b>   | None. |
| If fault <b>3.DEF: Inconsistency between pedal gang 1 and gang 2</b> is the only fault and is <b>present</b> , replace the <b>accelerator pedal</b> (see <b>MR 388 or 451, Mechanical, 37A, Mechanical component control, Accelerator pedal: Removal – Refitting</b> ). |  |       |
| If the fault is still present, contact the Techline.  |  |       |
| <b>4.DEF</b>  | <b>NOTES</b>   | None. |
| Run <b>TEST 8 Accelerator pedal potentiometer check</b> .   |  |       |
| If the fault is still present, contact the Techline.  |  |       |

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| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
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V42\_V04\_DF887 / V42\_V06\_DF887

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| <b>DF894<br/>PRESENT<br/>OR<br/>STORED</b>  | <b><u>ADDITIONAL FUEL CIRCUIT SOLENOID VALVE</u></b><br>CC.0: Short circuit to earth<br>CC.1: Short circuit to + 12 V<br>CO: Open circuit |
| <b>NOTES</b>  | See the <b>Wiring Diagrams Technical Note for Logan, Sandero</b> .  |
| Check the connection and condition of the connector of the additional fuel circuit solenoid valve, component code <b>1640</b> and the <b>injection computer</b> connector, component code <b>120</b> .<br>If the connectors are faulty and if there is a repair procedure (see <b>Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair</b> ), repair the connector, otherwise replace the wiring.  |   |
| Check the <b>continuity, insulation, and absence of interference resistance</b> on the following connections:<br>– <b>3ACM</b> between components <b>1640</b> and <b>120</b> ,<br>– <b>3FB</b> between components <b>1640</b> and <b>1047</b> .<br>If the connection or connections are faulty and there is a repair procedure (see <b>Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair</b> ), repair the wiring. Otherwise replace the wiring. |   |
| Check the supply of the solenoid valve using a test light, by running command <b>AC217 Additional fuel circuit solenoid valve</b> .   |   |
| Check the internal resistance of the solenoid valve, component code <b>1640</b> on the computer connector, its value must be between: $24\Omega < X \leq 30\Omega$ . If the resistance is incorrect, replace the solenoid valve.  |   |
| If the fault is still present, contact the Techline.  |   |

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| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
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V42\_V04\_DF894/ V42\_V06\_DF894

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| <b>DF974<br/>PRESENT<br/>OR<br/>STORED</b> | <u>PEDAL POTENTIOMETER CIRCUIT GANG 1</u><br>1.DEF: Battery voltage too high.<br>2.DEF: Battery voltage too low. |
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| <b>NOTES</b> | <b>Fault priorities:</b><br>Deal with the following fault as a priority:<br><b>DF011 Sensor voltage supply no. 1</b> |
|              | <b>Special notes:</b><br>After this fault appears:<br><b>The OBD and level 1 warning lights are illuminated.</b>     |
|              | <b>See the Wiring Diagrams Technical Note for Logan, Sandero, Duster.</b>  |

Check the connection and condition of the connector of the **accelerator pedal sensor, gang 1**, component code **921** and of the **injection computer** connector, component code **120**.  
If the connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

Run **TEST 8 Accelerator pedal potentiometer check**.

If the fault is still present, contact the Techline.

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| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
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| <b>DF975<br/>PRESENT<br/>OR<br/>STORED</b> | <b><u>PEDAL POTENTIOMETER CIRCUIT GANG 2</u></b><br>1.DEF: Battery voltage too high.<br>2.DEF: Battery voltage too low. |
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| <b>NOTES</b> | <b>Special notes:</b><br>After this fault appears:<br><b>The OBD and level 1 warning lights are illuminated.</b> |
|              | See the <b>Wiring Diagrams Technical Note for Logan, Sandero, Duster.</b>  |

Check the connection and condition of the connector of the **accelerator pedal sensor, gang 2**, component code **921** and of the **injection computer** connector, component code **120**.  
If the connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

Run **TEST 8 Accelerator pedal potentiometer check**.

If the fault is still present, contact the Techline.

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| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
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**DF992  
PRESENT  
OR  
STORED**

**ADDITIONAL HEATER 1 RELAY CIRCUIT**

CC.0: Short circuit to earth  
CC.1: Short circuit to + 12 V  
CO: Open circuit

**NOTES**

See the **Wiring Diagrams Technical Note for Logan, Sandero, Duster.**

Check the **cleanliness and condition** of the additional heater 1 relay, component code **1067** and the connections of the injection computer, component code **120**.

If the connector or connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector(s), otherwise replace the wiring.

Check the **insulation, continuity and absence of interference resistance** on the following connection:

- **38JU** between components **1067** and **120**,
- **3FB** between components **1067** and **1047**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

Check that the additional heater relay operates correctly by running command **AC250 Heating resistor 1 relay** and check that there are no more faults on the relay. If the check is not correct, replace the additional heater relay, component code **1067** (see **MR 388 or 451, Mechanical, 61A, Heating system, Heating resistor relay: Removal - Refitting**).

If the fault is still present, contact the Techline.

**AFTER REPAIR**

Deal with any faults displayed by the **diagnostic tool**.

Clear the computer fault memory.

Carry out a road test followed by another check with the **diagnostic tool**.

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| <b>DF993<br/>PRESENT<br/>OR<br/>STORED</b>   | <b><u>ADDITIONAL HEATER 2 RELAY CIRCUIT</u></b><br>CC.0: Short circuit to earth<br>CC.1: Short circuit to + 12 V<br>CO: Open circuit |
| <b>NOTES</b>   | See the <b>Wiring Diagrams Technical Note for Logan, Sandero, Duster.</b>  |
| <p>Check the <b>cleanliness and condition</b> of the additional heater 2 relay, component code <b>1068</b> and the connections of the injection computer, component code <b>120</b>.<br/>If the connector or connectors are faulty and if there is a repair procedure (see <b>Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair</b>), repair the connector(s), otherwise replace the wiring.</p>   |  |
| <p>Check the <b>insulation, continuity and absence of interference resistance</b> on the following connection:<br/>– <b>38JV</b> between components <b>1068</b> and <b>120</b>,<br/>– <b>3FB</b> between components <b>1068</b> and <b>1047</b>.<br/>If the connection or connections are faulty and there is a repair procedure (see <b>Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair</b>), repair the wiring, otherwise replace it.</p> |  |
| <p>Check that the additional heater relay operates correctly by running command <b>AC251 Heating resistor 2 relay</b> and check that there are no more faults on the relay. If the check is not correct, replace the additional heater relay, component code <b>1068</b> (see <b>MR 388 or 451, Mechanical, 61A, Heating system, Heating resistor relay: Removal - Refitting</b>).</p>   |  |
| <p>If the fault is still present, contact the Techline.</p>  |  |

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| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
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**DF994  
PRESENT  
OR  
STORED**

**ADDITIONAL HEATER 3 RELAY CIRCUIT**

CC.0: Short circuit to earth  
CC.1: Short circuit to + 12 V  
CO: Open circuit

**NOTES**

See the **Wiring Diagrams Technical Note for Logan, Sandero, Duster.**

Check the **cleanliness and condition** of the additional heater 3 relay, component code **1069** and the connections of the injection computer, component code **120**.

If the connector or connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector(s), otherwise replace the wiring.

Check the **insulation, continuity and absence of interference resistance** on the following connection:

- **38JW** between components **1069** and **120**,
- **3FB** between components **1069** and **1047**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

Check that the additional heater relay operates correctly by running command **AC252 Heating resistor 3 relay** and check that there are no more faults on the relay. If the check is not correct, replace the additional heater relay, component code **1069** (see **MR 388 or 451, Mechanical, 61A, Heating system, Heating resistor relay: Removal - Refitting**).

If the fault is still present, contact the Techline.

**AFTER REPAIR**

Deal with any faults displayed by the **diagnostic tool**.

Clear the computer fault memory.

Carry out a road test followed by another check with the **diagnostic tool**.

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| <b>DF1015<br/>PRESENT<br/>OR<br/>STORED</b> | <b><u>BRAKE SWITCH SIGNAL CONSISTENCY</u></b><br>1.DEF: Value outside permitted tolerance values<br>2.DEF: Inconsistent signal. |
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| <b>NOTES</b> | <b>Fault priorities</b><br>Deal with the following faults first:<br><b>DF050 Brake switch circuit</b><br><b>DF631 Brake light switch signal</b>  |
|              | <b>Conditions for application to a stored fault:</b><br>The fault is declared <b>present</b> : <ul style="list-style-type: none"><li>– For <b>1.DEF engine at idle speed</b>.</li><li>– For <b>2.DEF</b>, impossible to see the <b>present</b> fault, deal with it as a <b>stored</b> fault.</li></ul> |
|              | See the <b>Wiring Diagrams Technical Note for Logan, Sandero, Duster</b> .   |

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| With the brake pedal <b>released</b> , check <b>ET039 Brake pedal</b> and <b>ET799 Brake wire contact</b> .<br>If <b>ET039</b> is <b>Released</b> and <b>ET799</b> is <b>Inactive</b> .  |
| Check the fitting and mechanical operation of the brake pedal (the pedal returns properly).<br>If the check is incorrect, check the braking system.  |
| Remove the <b>brake pedal switch</b> , component code <b>160</b> (see <b>MR 388 or 451, Mechanical, 37A, Mechanical component controls, Brake pedal switch: Removal - Refitting</b> ) and, without action on the pedal, press sufficiently on the brake pedal switch to seat it completely in its position.<br>Lock it by turning it an eighth of a turn.<br>The fault should change from <b>present</b> to <b>stored</b> .  |
| – With the brake pedal <b>depressed</b> , measure the <b>resistance</b> of the <b>brake pedal switch</b> , component code <b>160</b> between connections <b>AP1</b> and <b>65A</b> , the value must be <b>X &gt; 10 MΩ</b> .<br>If the <b>resistance</b> is not correct, replace the <b>brake pedal switch</b> , component code <b>160</b> (see <b>MR 388 or 451, Mechanical, 37A, Mechanical component controls, Brake pedal switch: Removal - Refitting</b> ).<br>– With the brake pedal <b>released</b> , measure the <b>resistance</b> of the <b>brake pedal switch</b> , component code <b>160</b> between connections <b>AP1</b> and <b>5A</b> , the value must be between <b>0 Ω &lt; X ≤ 1 Ω</b> .<br>If the <b>resistance</b> is not correct, replace the <b>brake pedal switch</b> , component code <b>160</b> (see <b>MR 388 or 451, Mechanical, 37A, Mechanical component controls, Brake pedal switch: Removal - Refitting</b> ). |
| Check the <b>brake pedal switch</b> connector, component code <b>160</b> (see <b>MR 388 or 451, Mechanical, 37A, Mechanical component controls, Brake pedal switch: Removal - Refitting</b> ).<br>If the connector is faulty and there is a repair method (see <b>Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair</b> ), repair the connector, otherwise replace the wiring.   |
| Check fuse <b>F03 (10 A)</b> and replace it if necessary.  |
| If the fault is still present, contact the Techline.   |

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| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
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# PETROL INJECTION

## Fault finding – Interpretation of faults

# 17B

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| <b>DF1017<br/>PRESENT<br/>OR<br/>STORED</b> | <u>COMPUTER</u><br>1.DEF: Internal electronic fault.<br>2.DEF: Internal electronic fault. |
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| <b>NOTES</b> | <b>Conditions for application to a stored fault:</b><br>The fault is declared <b>present</b> :<br>– For an engine speed > <b>1500 rpm</b> and coolant temperature > <b>70°C</b> |
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| <b>1.DEF</b> | <b>NOTES</b> | None. |
|--------------|--------------|-------|

Do not replace the injection computer if the fault is **stored**.  
In the event of a customer complaint relating to engine jolts, contact Techline.

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|--------------|--------------|-------|
| <b>2.DEF</b> | <b>NOTES</b> | None. |
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If the fault is still present, contact the Techline.

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| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
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V42\_V04\_DF1017 / V42\_V06\_DF1017

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| <b>DF1058<br/>PRESENT<br/>OR<br/>STORED</b> | <u><b>INLET PRESSURE CONSISTENCY</b></u><br>1.DEF: Abnormal voltage<br>2.DEF: Abnormal pressure |
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| <b>NOTES</b> | <b>Priority when dealing with a number of faults:</b><br><b>DF079 Motorised throttle valve servo</b>  |
|              | <b>Conditions for applying the fault finding procedure to a stored fault:</b><br>The fault is considered <b>present</b> under the following conditions:<br>– For <b>2.DEF</b> engine running at idle speed. |
|              | <b>Special note:</b><br>For <b>2.DEF</b> , the OBD warning light and level 1 fault warning light illuminate,<br>For <b>1.DEF</b> , the OBD warning light illuminates.                                       |
|              | <b>See the Wiring Diagrams Technical Note for Logan, Sandero, Duster.</b>   |

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| Check the fitting and sealing of the inlet air pressure sensor, component code <b>147</b> (condition of the seals) and look for possible leaks on the inlet air pipe.  |
| Check the connector of the inlet air pressure sensor, component code <b>147</b> .<br>If the connector is faulty and there is a repair method (see <b>Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair</b> ), repair the connector, otherwise replace the wiring.  |
| Check the supply voltage of the sensor on connections <b>3AJR</b> and <b>3AJP</b> .  |
| Check the <b>insulation, continuity and the absence of interference resistance</b> on the following connections:<br>– <b>3AJP</b> between components <b>120</b> and <b>147</b> ,<br>– <b>3AJR</b> between components <b>120</b> and <b>147</b> ,<br>– <b>3AJQ</b> between components <b>120</b> and <b>147</b> .<br>If the connection or connections are faulty and there is a repair procedure (see <b>Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair</b> ), repair the wiring, otherwise replace it. |
| Replace the inlet air pressure sensor, component code <b>147</b> and check that the fault is no longer <b>present</b> (see <b>MR 388 or 451, Mechanical, 12A, Fuel mixture, Air inlet: Description</b> ).  |
| If the fault is still present, contact the Techline.   |

|                     |   |
|---------------------|---|
| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
|---------------------|---|

|   |  |
|---|--|
| <b>DF1063<br/>PRESENT<br/>OR<br/>STORED</b> | <u>MULTIPLEX ELECTRONIC STABILITY PROGRAM LINK</u><br>1.DEF: Invalid multiplex signals generated by computer |
|---|--|

|              |       |
|--------------|-------|
| <b>NOTES</b> | None. |
|--------------|-------|

Test the ABS computer (see **38C, Anti-lock braking system**).

|                     |   |
|---------------------|---|
| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
|---------------------|---|

V42\_V04\_DF1063 / V42\_V06\_DF1063

|   |  |
|---|--|
| <b>DF1068<br/>PRESENT<br/>OR<br/>STORED</b> | <b>REFRIGER.* PRESSURE SENSOR VOLTAGE</b><br>1.DEF: Voltage too low.<br>2.DEF: Voltage too high. |
|---|--|

|              |   |
|--------------|---|
| <b>NOTES</b> | See the <b>Wiring Diagrams Technical Note for Logan, Sandero, Duster.</b> |
|--------------|---|

Check the connection and condition of the **refrigerant pressure sensor** connector, component code **1202** and of the **injection computer** connector, component code **120**.

If the connector is faulty and there is a repair method (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

With the ignition on, check for the presence of **+ 5 V** on connection **38Y** and an **earth** on connection **38U** of the **refrigerant fluid pressure sensor**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

Check the **insulation, continuity and the absence of interference resistance** on the following connections:

- **38Y** between components **1202** and **120**,
- **38X** between components **1202** and **120**,
- **38U** between components **1202** and **120**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, replace the **refrigerant pressure sensor**, component code **1202** (see **MR 388 or 451, Mechanical, 62A, Air conditioning, Pressure sensor: Removal – Refitting, MR 388 or 451, Mechanical, 62A, Air conditioning: Precautions for repair, MR 388 or 451, Mechanical, 62A, Air conditioning: Parts and consumables for the repair**).

If the fault is still present, contact the Techline.

REFRIGER.\*: REFRIGERANT.

|                     |   |
|---------------------|---|
| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
|---------------------|---|

V42\_V04\_DF1068 / V42\_V06\_DF1068

|   |  |
|---|--|
| <b>DF1072<br/>PRESENT<br/>OR<br/>STORED</b> | <u><b>AIR CONDITIONING COMPRESSOR RELAY CONTROL</b></u><br>CC.0: Short circuit to earth<br>CC.1: Short circuit to + 12 V<br>CO: Open circuit |
|---|--|

|              |   |
|--------------|---|
| <b>NOTES</b> | See the <b>Wiring Diagrams Technical Note for Logan, Sandero, Duster.</b> |
|--------------|---|

Check the connection and condition of the **air conditioning compressor control relay** connector, component code **474** and the **injection computer** connector, component code 120.

If the connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

Check the **insulation, continuity and the absence of interference resistance** on the following connections:

- **38K** between components **474** and **120**,
- **3FB** between components **1047** and **474**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

Run command **AC180 Air conditioning compressor relay control** in order to check that the relay operates correctly.

If the fault is still present, contact the Techline.

|                     |   |
|---------------------|---|
| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
|---------------------|---|

|   |  |
|---|--|
| <b>DF1074<br/>PRESENT<br/>OR<br/>STORED</b> | <b><u>MOTORISED THROTTLE POSITION INCONSISTENT</u></b><br>1.DEF: Inconsistency between throttle valve position and control.<br>2.DEF: Inconsistent signal. |
|---|--|

|              |   |
|--------------|---|
| <b>NOTES</b> | <b>Conditions for applying the fault finding procedure to a stored fault:</b><br>The fault is considered <b>present</b> under the following conditions:<br>– For <b>1.DEF</b> engine running at idle speed. |
|              | <b>Special note:</b><br>For <b>1.DEF</b> , the OBD warning light illuminates,<br>For <b>2.DEF</b> , the OBD warning light and level 2 fault warning light illuminate.                                       |
|              | <b>See the Wiring Diagrams Technical Note for Logan, Sandero, Duster.</b>   |

|   |
|---|
| <p>Check the connection and condition of the <b>motorised throttle valve</b> connector, component code <b>1076</b> and the <b>injection computer</b> connector, component code <b>120</b>.<br/>If the connectors are faulty and if there is a repair procedure (see <b>Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair</b>), repair the connector, otherwise replace the wiring.</p> <p>Check the <b>insulation, continuity and the absence of interference resistance</b> on the following connections:</p> <ul style="list-style-type: none"><li>– <b>3AJB</b> between components <b>1076</b> and <b>120</b>,</li><li>– <b>3AJC</b> between components <b>1076</b> and <b>120</b>,</li><li>– <b>3MP</b> between components <b>1076</b> and <b>120</b>,</li><li>– <b>3MQ</b> between components <b>1076</b> and <b>120</b>,</li><li>– <b>3MO</b> between components <b>1076</b> and <b>120</b>.</li></ul> <p>If the connection or connections are faulty and there is a repair procedure (see <b>Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair</b>), repair the wiring, otherwise replace it.</p> <p>If the fault is still present, contact the Techline.</p> |
|---|

|                     |   |
|---------------------|---|
| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
|---------------------|---|



|   |   |
|---|---|
| <b>DF1355<br/>PRESENT<br/>OR<br/>STORED</b> | <b><u>MULTIPLEX TORQUE REGULATOR CONNECTION</u></b><br>1.DEF: Inconsistent signal.<br>2.DEF: Invalid multiplex signals generated by computer. |
|---|---|

|              |       |
|--------------|-------|
| <b>NOTES</b> | None. |
|--------------|-------|

Perform fault finding on the electromagnetic torque management computer.

|                     |   |
|---------------------|---|
| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
|---------------------|---|

V42\_V04\_DF1355 / V42\_V06\_DF1355

The global **conformity check** for the functions and sub-functions of this system is no longer interpreted in the conformity check. Instead, all information available in the functions and sub-functions can be found in the following chapters:

For **STATUSES**, refer to **INTERPRETATION OF STATUSES**.

For **PARAMETERS**, refer to **INTERPRETATION OF PARAMETERS**.

For **COMMANDS**, refer to **INTERPRETATION OF COMMANDS**.

# PETROL INJECTION

## Fault finding – Status summary table

17B

| Tool status | Diagnostic tool title                        |
|-------------|--|
| ET001       | Computer + After ignition                    |
| ET038       | Engine                                       |
| ET039       | Brake pedal                                  |
| ET041       | Gearbox ratio                                |
| ET047       | Fuel pump control circuit                    |
| ET051       | Throttle stop programming                    |
| ET089       | Flywheel target programming                  |
| ET148       | OBD warning light activation request         |
| ET321       | Air conditioning compressor                  |
| ET405       | Clutch pedal switch                          |
| ET434       | Low fuel level                               |
| ET673       | Jammed accelerator pedal detected            |
| ET717       | Target gearbox ratio                         |
| ET734       | Heating resistor 1 relay control             |
| ET735       | Heating resistor 2 relay control             |
| ET736       | Heating resistor 3 relay control             |
| ET759       | Braking multiplex signal detected            |
| ET760       | First starting                               |
| ET775       | Camshaft TDC* synchronisation                |
| ET798       | Clutch wire contact connection               |
| ET799       | Brake wire contact                           |
| ET813       | Low speed fan assembly request by injection  |
| ET814       | High speed fan assembly request by injection |
| ET819       | Low speed fan assembly final request         |
| ET820       | High speed fan assembly final request        |
| ET836       | TDC sensor signal                            |
| ET837       | Crankshaft synchronisation                   |
| ET831       | Injection protection                         |

TDC\*: Top Dead Centre

GMV\*\*: Fan assembly

|       |                                       |
|-------|---------------------------------------|
| ET001 | <u>COMPUTER + AFTER IGNITION FEED</u> |
|-------|---------------------------------------|

|                          |  |
|--------------------------|--|
| <b>STATUS DEFINITION</b> | <b>PRESENT:</b> This status indicates that the + after ignition feed is active.<br><b>ABSENT:</b> This status indicates that the + after ignition is not active. |
|--------------------------|--|

|                  |              |       |
|------------------|--------------|-------|
| <b>"PRESENT"</b> | <b>NOTES</b> | None. |
|------------------|--------------|-------|

With the ignition on and engine running warm at idle speed, + after ignition feed is activated.  
In the event of a fault, apply the interpretation of **DF047 Computer supply voltage**.

|                     |   |
|---------------------|---|
| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer fault memory.<br>Carry out a road test followed by another check with the <b>diagnostic tool</b> . |
|---------------------|---|

|       |               |
|-------|---------------|
| ET038 | <u>ENGINE</u> |
|-------|---------------|

|                          |  |
|--------------------------|--|
| <b>STATUS DEFINITION</b> | <p><b>STOPPED:</b> This status indicates that the engine ignition is on without the starter engaged.</p> <p><b>STALLED:</b> This status indicates that the engine has stalled.</p> <p><b>RUNNING:</b> This status indicates that the engine has started.</p> <p><b>STARTING:</b> This status indicates that the engine is in starting phase.</p> |
|--------------------------|--|

|                     |  |
|---------------------|--|
| <b>AFTER REPAIR</b> | Deal with any faults. Clear the faults from the computer memory.<br>Switch off the ignition and carry out a road test followed by a test with the <b>diagnostic tool</b> . |
|---------------------|--|

|       |             |
|-------|-------------|
| ET041 | <u>GEAR</u> |
|-------|-------------|

|                          |  |
|--------------------------|--|
| <b>STATUS DEFINITION</b> | <p><b>REVERSE:</b> This status indicates the gear engaged.</p> <p><b>DECLUTCHED:</b> This status indicates the gear engaged.</p> <p><b>1:</b> This status indicates the gear engaged.</p> <p><b>2:</b> This status indicates the gear engaged.</p> <p><b>3:</b> This status indicates the gear engaged.</p> <p><b>4:</b> This status indicates the gear engaged</p> <p><b>5:</b> This status indicates the gear engaged.</p> |
|--------------------------|--|

|                     |  |
|---------------------|--|
| <b>AFTER REPAIR</b> | <p>Deal with any faults. Clear the faults from the computer memory.</p> <p>Switch off the ignition and carry out a road test followed by a test with the <b>diagnostic tool</b>.</p> |
|---------------------|--|

|              |                                  |
|--------------|----------------------------------|
| <b>ET047</b> | <u>FUEL PUMP CONTROL CIRCUIT</u> |
|--------------|----------------------------------|

|                          |   |
|--------------------------|---|
| <b>STATUS DEFINITION</b> | <p><b>ACTIVE:</b> This status indicates that the fuel pump is active.</p> <p><b>INACTIVE:</b> This status indicates that the fuel pump is inactive.</p> |
|--------------------------|---|

|   |
|---|
| <b>Conformity check: Engine stopped, ignition on or engine running.</b> |
|---|

|               |   |
|---------------|---|
| <b>ACTIVE</b> | Status <b>ET047</b> is <b>ACTIVE</b> when starting the engine. In the event of a fault apply the interpretation of <b>DF085 Fuel pump relay circuit</b> . |
|---------------|---|

|                 |   |
|-----------------|---|
| <b>INACTIVE</b> | Status <b>ET047</b> is <b>INACTIVE</b> when the engine is stopped and the ignition off. |
|-----------------|---|

|                     |  |
|---------------------|--|
| <b>AFTER REPAIR</b> | Deal with any faults. Clear the faults from the computer memory.<br>Switch off the ignition and carry out a road test followed by a test with the <b>diagnostic tool</b> . |
|---------------------|--|

ET051

### THROTTLE STOP PROGRAMMING

#### STATUS DEFINITION

**COMPLETED:** This status indicates that the throttle stops have been programmed  
**NOT COMPLETED:** This status indicates that the throttle stops have not been programmed.

**Conformity check: Engine stopped, ignition on or engine running.**

#### COMPLETED

This means that the throttle stops have been programmed.

Even though this programming is automatic, take particular care when performing the first motorised throttle stop programming operation.

This can be carried out on several occasions:

- when a computer is switched on for the first time,
- at the end of computer programming (see **Replacement of components**)

The air temperature must be above **0°C** during programming, then, at the end of programming, switch off the ignition and wait **30 seconds** for the end of Power Latch so that the computer can store the programmed stops.

#### NOT COMPLETED

This means that the throttle stops have not been programmed.

#### AFTER REPAIR

Deal with any faults. Clear the faults from the computer memory.  
Switch off the ignition and carry out a road test followed by a test with the **diagnostic tool**.



ET089

### PROGRAMMING THE ENGINE FLYWHEEL TARGET

#### STATUS DEFINITION

**COMPLETED:** This status indicates that the throttle stops have been programmed  
**NOT COMPLETED:** This status indicates that the throttle stops have not been programmed.

**Conformity check: Engine stopped, ignition on or engine running.**

#### COMPLETED

This means that the engine flywheel target programming has been completed.

In the event of a fault, program the engine flywheel target (see **Replacement of components**).

In the event of a fault, apply the interpretation of **DF457 Flywheel target**.

#### NOT COMPLETED

This means that the engine flywheel target programming has not been completed.

#### AFTER REPAIR

Deal with any faults. Clear the faults from the computer memory.  
Switch off the ignition and carry out a road test followed by a test with the **diagnostic tool**.

|   |   |
|---|---|
| ET148   | <u>OBD WARNING LIGHT ACTIVATION REQUEST</u>   |
| <b>STATUS DEFINITION</b>  | <b>YES:</b> This status indicates that the warning light is lit continuously.<br><b>NO:</b> This status indicates that the warning light is off.<br><b>FLASHING:</b> This status indicates that the warning light flashes.<br><b>SELF TEST:</b> This status indicates that the warning light is performing a self test. |
| <b>NOTES</b>  | <b>Special notes:</b><br>In the event of normal operation, this warning light must remain off ( <b>NO</b> ).  |
| <b>Conformity check: Engine stopped, ignition on or engine running.</b> |   |
| <b>"YES"</b>  | If the status is inconsistent, consult the interpretation of fault <b>DF342 Malfunction indicator light circuit</b> .   |

|                     |  |
|---------------------|--|
| <b>AFTER REPAIR</b> | Deal with any faults. Clear the faults from the computer memory.<br>Switch off the ignition and carry out a road test followed by a test with the <b>diagnostic tool</b> . |
|---------------------|--|

**ET321**

### AIR CONDITIONING COMPRESSOR

#### **STATUS DEFINITION**

**ACTIVE:** This status indicates that the air conditioning compressor is active.

**INACTIVE:** This status indicates that the air conditioning compressor is inactive

#### **NOTES**

**Special notes:**

Only perform these tests if the status does not correspond with the system programming functions.

**Conformity check: Engine stopped, ignition on or engine running.**

#### **ACTIVE**

To check the operation of the air conditioning, run command **AC180 Air conditioning compressor relay control**. In the event of a fault, apply the interpretation of **DF1072 Air conditioning compressor control**.

#### **AFTER REPAIR**

Deal with any faults. Clear the faults from the computer memory.  
Switch off the ignition and carry out a road test followed by a test with the **diagnostic tool**.

|              |                            |
|--------------|----------------------------|
| <b>ET405</b> | <u>CLUTCH PEDAL SWITCH</u> |
|--------------|----------------------------|

|                          |   |
|--------------------------|---|
| <b>STATUS DEFINITION</b> | <b>ACTIVE:</b> This status indicates that the clutch pedal is depressed.<br><b>INACTIVE:</b> This status indicates that the clutch pedal is released. |
|--------------------------|---|

|              |  |
|--------------|--|
| <b>NOTES</b> | <b>Special notes:</b><br>Apply the checks only if statuses <b>ACTIVE</b> and <b>INACTIVE</b> are inconsistent with the pedal position.<br>See the <b>Wiring Diagrams Technical Note for Logan, Sandero, Duster</b> . |
|--------------|--|

**Conformity check:** Engine stopped and ignition on, or engine running, and engine coolant temperature > 80°C.

|                 |  |
|-----------------|--|
| <b>INACTIVE</b> | <p>Check the condition and fitting of the <b>clutch pedal position sensor</b>, component code <b>675</b> (see <b>MR 388, Mechanical, 37A, Mechanical component controls, Clutch pedal position sensor: Removal – Refitting</b> or <b>MR 451, Mechanical, 37A, Mechanical component controls, Clutch pedal: Removal - Refitting</b>).</p> <p>Remove the <b>clutch pedal position sensor</b>, component code <b>675</b> (see <b>MR 388, Mechanical, 37A, Mechanical component controls, Clutch pedal position sensor: Removal – Refitting</b> or <b>MR 451, Mechanical, 37A, Mechanical component controls, Clutch pedal: Removal - Refitting</b>).</p> <p>Check the <b>insulation</b> between connections <b>MAM</b> and <b>86D</b> of component <b>675</b> with the switch in the rest position.</p> <ul style="list-style-type: none"><li>– Repeat this operation with the switch pressed, and check <b>the continuity and the absence of interference resistance</b> between the two connections.</li></ul> <p>If these 2 checks are not correct, replace the <b>clutch pedal position sensor</b>, component code <b>675</b> (see <b>MR 388, Mechanical, 37A, Mechanical component controls, Clutch pedal position sensor: Removal – Refitting</b> or <b>MR 451, Mechanical, 37A, Mechanical component controls, Clutch pedal: Removal - Refitting</b>).</p> <p>Then check the <b>continuity</b> and <b>absence of interference resistance</b> of the following connection:</p> <ul style="list-style-type: none"><li>– <b>86D</b> between components <b>120</b> and <b>675</b>.</li></ul> <p>Check that the <b>earth</b> is in order on connection <b>MAM</b> of component <b>675</b>.</p> <p>If the connection or connections are faulty and if there is a repair procedure (see <b>Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair</b>), <b>repair the wiring, otherwise replace it</b>.</p> |
|-----------------|--|

|                     |  |
|---------------------|--|
| <b>AFTER REPAIR</b> | Deal with any faults. Clear the faults from the computer memory.<br>Switch off the ignition and carry out a road test followed by a test with the <b>diagnostic tool</b> . |
|---------------------|--|

|                            |  |
|----------------------------|--|
| <b>ET405<br/>CONTINUED</b> |  |
|----------------------------|--|

|               |  |
|---------------|--|
| <b>ACTIVE</b> | <p>Check the condition and fitting of the clutch pedal position sensor.<br/>Remove the <b>clutch pedal position sensor</b>, component code <b>675</b> (see <b>MR 388, Mechanical, 37A, Mechanical component controls, Clutch pedal position sensor: Removal – Refitting</b> or <b>MR 451, Mechanical, 37A, Mechanical component controls, Clutch pedal: Removal - Refitting</b>), check the insulation between connections <b>MAM</b> and <b>86D</b> of component <b>675</b>, with the switch in the <b>rest position</b>.</p> <p>– Repeat this operation with the switch pressed, and check <b>the continuity and the absence of interference resistance</b> between the two connections.</p> <p>If these 2 checks are not correct, replace the <b>clutch pedal position sensor</b>, component code <b>675</b> (see <b>MR 388 or 451, Mechanical, 37A, Mechanical component controls, Clutch pedal position sensor: Removal – Refitting</b> or <b>MR 451, Mechanical, 37A, Mechanical component controls, Clutch pedal: Removal - Refitting</b>).</p> |
|---------------|--|

|                     |   |
|---------------------|---|
| <b>AFTER REPAIR</b> | <p>Deal with any faults. Clear the faults from the computer memory.<br/>Switch off the ignition and carry out a road test followed by a test with the <b>diagnostic tool</b>.</p> |
|---------------------|---|

**ET673**

### JAMMED ACCELERATOR PEDAL

#### **STATUS DEFINITION**

**YES:** This status indicates that the accelerator pedal is jammed.  
**NO:** This status indicates that the accelerator pedal is not jammed.

#### **NOTES**

To reinitialise this status, clear the fault memory by running command **RZ001 Fault memory**.

**Conformity check: Engine stopped, ignition on or engine running.**

**YES**

Check that the accelerator pedal is not jammed or that there is nothing impeding its operation (floor carpet, etc.).  
Check the brake switch (see the interpretation of fault **DF050 Brake switch circuit**).

#### **AFTER REPAIR**

Deal with any faults. Clear the faults from the computer memory.  
Switch off the ignition and carry out a road test followed by a test with the **diagnostic tool**.

|       |                             |
|-------|-----------------------------|
| ET717 | <u>TARGET GEARBOX RATIO</u> |
|-------|-----------------------------|

|                          |  |
|--------------------------|--|
| <b>STATUS DEFINITION</b> | <p><b>REVERSE:</b> This status indicates the gear engaged.</p> <p><b>DECLUTCHED:</b> This status indicates the gear engaged.</p> <p><b>1:</b> This status indicates the gear engaged.</p> <p><b>2:</b> This status indicates the gear engaged.</p> <p><b>3:</b> This status indicates the gear engaged.</p> <p><b>4:</b> This status indicates the gear engaged</p> <p><b>5:</b> This status indicates the gear engaged.</p> |
|--------------------------|--|

|                     |  |
|---------------------|--|
| <b>AFTER REPAIR</b> | <p>Deal with any faults. Clear the faults from the computer memory.</p> <p>Switch off the ignition and carry out a road test followed by a test with the <b>diagnostic tool</b>.</p> |
|---------------------|--|

**ET734**  
**ET735**  
**ET736**

HEATING RESISTOR NO.1 RELAY CONTROL  
HEATING RESISTOR NO.2 RELAY CONTROL  
HEATING RESISTOR NO.3 RELAY CONTROL

### STATUS DEFINITION

**ACTIVE:** This status indicates that the relay is supplied.  
**INACTIVE:** This status indicates that the relay is not supplied.

**Conformity check: Engine stopped, ignition on or engine running.**

### INACTIVE

Statuses **ET734**, **ET735** and **ET736** are **INACTIVE** with the ignition on and the engine stopped, or when the engine is warm.

### ACTIVE

Statuses **ET734**, **ET735** and **ET736** are **ACTIVE** when the engine is started, the engine coolant temperature is low ( $< 15^{\circ}\text{C}$ ) and the air temperature is low ( $< 5^{\circ}$ ). This program allows the engine coolant to be heated to enable the passenger compartment to be heated.

To control the operation of the relays, run the following commands:

**AC250 Heating resistor no.1 relay.**

**AC251 Heating resistor no.2 relay.**

**AC252 Heating resistor no.3 relay.**

In the event of a fault, refer to the interpretation of faults:

**DF992 Additional heater relay 1 circuit.**

**DF993 Additional heater relay 2 circuit.**

**DF994 Additional heater relay 3 circuit.**

### AFTER REPAIR

Deal with any faults. Clear the faults from the computer memory.  
Switch off the ignition and carry out a road test followed by a test with the **diagnostic tool**.



**ET759**

### BRAKING MULTIPLEX SIGNAL DETECTED

#### **STATUS DEFINITION**

**ABSENT:** This status indicates that the braking multiplex signal detected is **absent**.  
**PRESENT:** This status indicates that the braking multiplex signal detected is **present**.  
**INTERMEDIATE:** This status indicates that the braking multiplex signal detected is intermediate.

**Conformity check: Engine stopped, ignition on or engine running.**

**Vehicle under + after ignition feed.**

- Parking brake released,
- Gear lever in 1<sup>st</sup>.

**Neither the brake pedal nor the clutch pedal depressed.**

Check status **ET759**.

#### **PRESENT - INTERMEDIATE**

Check the correct position and the conformity of the brake pedal sensor.  
Run fault finding on the UCH domain (see **87B, UCH**).

#### **"ABSENT"**

The brake pedal sensor is correct.

#### **AFTER REPAIR**

Deal with any faults. Clear the faults from the computer memory.  
Switch off the ignition and carry out a road test followed by a test with the **diagnostic tool**.

**ET836**

### TDC SENSOR SIGNAL

#### **STATUS DEFINITION**

**DETECTED:** This status indicates that the TDC sensor signal is detected.

**NOT DETECTED:** This status indicates that the TDC sensor signal is not detected.

**Conformity check: Engine stopped, ignition on or engine running.**

**NOT DETECTED**

In the event of a fault, refer to the interpretation of fault **DF120 Engine speed sensor signal**.

#### **AFTER REPAIR**

Deal with any faults. Clear the faults from the computer memory.  
Switch off the ignition and carry out a road test followed by a test with the **diagnostic tool**.

|              |                             |
|--------------|-----------------------------|
| <b>ET846</b> | <u>INJECTION PROTECTION</u> |
|--------------|-----------------------------|

|                          |   |
|--------------------------|---|
| <b>STATUS DEFINITION</b> | <b>NOT PROTECTED</b><br><b>BLANK:</b> No signal<br><b>PROTECTED STATUS 1:</b> Fault on coded line circuit<br><b>PROTECTED STATUS 2:</b> Fault on immobiliser memory area<br><b>PROTECTED STATUS 3:</b> Injection computer self-protection |
|--------------------------|---|

**BLANK:**

- The injection computer does not receive a signal from the UCH computer.
- Run fault finding on the multiplex network.

**PROTECTED STATUS 1:**

The UCH computer does not respond to the authentication requests from the injection computer.

Several possibilities:

- either the UCH computer was not programmed with the vehicle's card/key,
- or the vehicle's card/key is not recognised by the UCH computer.
- Run fault finding on the UCH computer.

**PROTECTED STATUS 2:**

Several possibilities:

- either the injection computer is blank and was not programmed with the immobiliser code, and the UCH computer is not authorised to send the immobiliser code,
- Connect a diagnostic tool to the UCH computer to authorise it to send the immobiliser code.
- or the UCH computer has detected a fault,
- Run fault finding on the UCH computer.

|                     |  |
|---------------------|--|
| <b>AFTER REPAIR</b> | Deal with any faults. Clear the faults from the computer memory.<br>Switch off the ignition and carry out a road test followed by a test with the <b>diagnostic tool</b> . |
|---------------------|--|

### ET846 CONTINUED

#### PROTECTED STATUS 3:

There are several possible causes, in the following order:

- check that the UCH computer has not detected a fault,
- Run fault finding on the UCH computer.
- check that the injection computer has not already been programmed with the immobiliser code for another vehicle using the status.
- Check that the injection computer corresponds correctly to the vehicle on which fault finding is being run.
  
- if none of the 2 previous points is the cause, check that the injection computer is not in anti-scanning mode after undergoing several failed authentication attempts,
- It only leaves this mode when the following sequence of operations is carried out:
  - 1- switch off the ignition,
  - 2- switch on the ignition again and wait for at least **20 seconds** under + after ignition feed,
  - 3- switch off the ignition and ensure that the end of the self-feed phase of the injection computer is observed (the length of time varies depending on the engine coolant temperature and can be **10 minutes** maximum),
  - 4- switch on the ignition again and start the vehicle,
  - 5- if the vehicle does not start, repeat this procedure **3 times**,
  - 6- if the vehicle still does not start, contact the Techline.

#### AFTER REPAIR

Deal with any faults. Clear the faults from the computer memory.  
Switch off the ignition and carry out a road test followed by a test with the **diagnostic tool**.

| Tool<br>Parameter | Diagnostic tool title                          |
|-------------------|--|
| PR002             | Alternator charge                              |
| PR015             | Engine torque                                  |
| PR030             | Accelerator pedal position                     |
| PR037             | Refrigerant pressure                           |
| PR041             | Turbocharging pressure                         |
| PR055             | Engine speed                                   |
| PR059             | Inlet air temperature                          |
| PR064             | Coolant temperature                            |
| PR071             | Computer feed voltage                          |
| PR084             | Coolant temperature sensor voltage             |
| PR089             | Vehicle speed                                  |
| PR097             | Motorised throttle lower stop programmed value |
| PR098             | Upstream oxygen sensor voltage                 |
| PR099             | Downstream oxygen sensor voltage               |
| PR102             | Canister bleed solenoid valve OCR*             |
| PR118             | Measured throttle position gang 1              |
| PR119             | Measured throttle position gang 2              |
| PR138             | Richness correction                            |
| PR139             | Operating adaptive richness                    |
| PR147             | Pedal potentiometer voltage gang 1             |
| PR148             | Pedal potentiometer voltage gang 2             |
| PR215             | Sensor supply voltage no. 1                    |
| PR216             | Sensor supply voltage no. 2                    |
| PR312             | Inlet manifold vacuum                          |
| PR313             | Linearised manifold pressure                   |
| PR344             | Pressure sensor voltage                        |
| PR427             | Average pinking signal                         |
| PR429             | Measured throttle position                     |
| PR444             | Integral idling speed regulation correction    |

OCR\*: Opening cyclic ratio

| Tool Parameter | Diagnostic tool title                         |
|----------------|---|
| PR446          | Upstream O2 sensor heating resistance         |
| PR447          | Downstream O2 sensor heating resistor         |
| PR448          | Ignition advance                              |
| PR469          | Cylinder 1 pinking value                      |
| PR471          | Cylinder 2 pinking value                      |
| PR473          | Cylinder 3 pinking value                      |
| PR475          | Cylinder 4 pinking value                      |
| PR492          | Motorised throttle position setpoint          |
| PR538          | Measured throttle voltage, gang 2             |
| PR539          | Measured throttle voltage gang 1              |
| PR606          | Adaptive idling speed correction              |
| PR624          | Richness regulation programming offset        |
| PR625          | Richness regulation programming gain          |
| PR770          | Camshaft offset                               |
| PR814          | Number of active heating resistors            |
| PR831          | Combustion misfiring counter                  |
| PR832          | Combustion misfiring counter                  |
| PR833          | Combustion misfiring counter                  |
| PR834          | Combustion misfiring counter                  |
| PR847          | Inlet air temperature sensor voltage          |
| PR872          | Refriger.* pressure sensor voltage            |
| PR877          | Estimated engine oil temperature              |
| PR887          | Motorised throttle safe mode programmed value |
| PR931          | Raw turbocharging pressure                    |
| PR1026         | Crankshaft synchro.* loss counter             |
| PR1029         | Alternator power                              |
| PR1129         | Brake contact no.1 duration                   |
| PR1153         | Brake contact no.2 duration                   |

Refriger.\*: refrigerant

Synchro\*: Synchronisation

**PR015**

### ENGINE TORQUE

#### **PARAMETER DEFINITION**

This parameter indicates the engine torque in **N.m.**

**Conformity check with the engine running and engine coolant temperature > 80°C**

The value must be between **20 Nm < PR015 < 40 Nm**  
This parameter is only valid when the engine is running.

#### **AFTER REPAIR**

Deal with any faults displayed by the **diagnostic tool**.  
Clear the computer memory.  
Carry out a road test, then check with the **diagnostic tool**.

|              |                                   |
|--------------|-----------------------------------|
| <b>PR030</b> | <u>ACCELERATOR PEDAL POSITION</u> |
|--------------|-----------------------------------|

|                             |   |
|-----------------------------|---|
| <b>PARAMETER DEFINITION</b> | This parameter indicates the accelerator pedal position as a %. |
|-----------------------------|---|

|              |   |
|--------------|---|
| <b>NOTES</b> | See the <b>Wiring Diagrams Technical Note</b> for Logan, Sandero, Duster. |
|--------------|---|

**Conformity check: Engine stopped and ignition on, or engine running, and engine coolant temperature > 80°C.**

No load ≤ 16%

Full load ≥ 85%

Check that the pedal mechanism has not seized.

Check the **cleanliness** and **condition** of the pedal potentiometer connections, component code **921** and the injection computer connections, component code **120**.

If the connector or connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector(s), otherwise replace the wiring.

Disconnect the battery and the injection computer.

Use the "Universal bornier" to check the **insulation** and **continuity** of the following connections:

- **3LT** between components **120** and **921**,
- **3LR** between components **120** and **921**,
- **3LS** between components **120** and **921**,
- **3LV** between components **120** and **921**,
- **3LU** between components **120** and **921**,
- **3LW** between components **120** and **921**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

In the event of a fault, apply the interpretation of **DF974 Pedal potentiometer circuit gang 1** and **DF975 Pedal potentiometer circuit gang 2**.

|                     |   |
|---------------------|---|
| <b>AFTER REPAIR</b> | Carry out a road test, then check with the <b>diagnostic tool</b> . |
|---------------------|---|



|              |                             |
|--------------|-----------------------------|
| <b>PR037</b> | <u>REFRIGERANT PRESSURE</u> |
|--------------|-----------------------------|

|                             |   |
|-----------------------------|---|
| <b>PARAMETER DEFINITION</b> | This parameter indicates the refrigerant pressure in <b>bar</b> . |
|-----------------------------|---|

|              |   |
|--------------|---|
| <b>NOTES</b> | See the <b>Wiring Diagrams Technical Note</b> for Logan, Sandero, Duster. |
|--------------|---|

**Conformity check: Engine stopped and ignition on, or engine running, and engine coolant temperature > 80°C.**

The refrigerant pressure must be between **2 bar < PR037 < 27 bar**.

Check the **cleanliness** and **condition** of the refrigerant pressure sensor and its connections, component code **1202** and the injection computer connections, component code **120**.

If the connector or connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector(s), otherwise replace the wiring.

Disconnect the battery and the injection computer.

Using the universal bornier in place of the computer, check for **insulation** and **continuity** on the following connections:

- **38Y** between components **120** and **1202**,
- **38X** between components **120** and **1202**,
- **38U** between components **120** and **1202**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, replace the refrigerant pressure sensor. (see **MR 388 or 451, Mechanical, 62A, Air conditioning, Pressure sensor: Removal - Refitting**).

(see **MR 388 or 451, Mechanical, 62A, Air conditioning: Precautions for repair**) and (see **MR 388 or 451, Mechanical, Air conditioning: Parts and consumables for the repair**).

If the fault is **present**, check the air conditioning circuit (see **MR 388 or 451, Mechanical, 62A, Air conditioning: Check**).

|                     |   |
|---------------------|---|
| <b>AFTER REPAIR</b> | Deal with any faults displayed by the <b>diagnostic tool</b> .<br>Clear the computer memory.<br>Carry out a road test, then check with the <b>diagnostic tool</b> . |
|---------------------|---|

**PR055**

### ENGINE SPEED

#### **PARAMETER DEFINITION**

This parameter indicates the engine's rotational speed in **rpm**.

Conformity check with engine stopped and ignition on.

With the ignition on the value must be **0 rpm**.  
In the event of a fault, apply interpretation of **DF120 Engine speed sensor signal**.

Conformity check with the engine running and engine coolant temperature > 80°C

With the engine running at idle speed, the value must be **≈ 750 rpm**.  
In the event of a fault, apply the interpretation of **DF120**.

#### **AFTER REPAIR**

Deal with any faults displayed by the **diagnostic tool**.  
Clear the computer memory.  
Carry out a road test, then check with the **diagnostic tool**.

**PR059**

### INLET AIR TEMPERATURE

#### **PARAMETER DEFINITION**

This parameter indicates the air temperature in °C.

Conformity check with engine stopped and ignition on.

With the ignition on the inlet air temperature varies according to the exterior temperature.  
In the event of a fault, consult the interpretation of fault **DF002 Air temperature sensor circuit**.  
Parameter **PR059** ≈ **PR064 Coolant temperature** engine cold.

Conformity check with the engine running and engine coolant temperature > 80°C

With the engine running at idle speed the inlet air temperature varies according to the engine coolant temperature.  
In the event of a fault, refer to the interpretation of fault **DF002**.

#### **AFTER REPAIR**

Deal with any faults displayed by the **diagnostic tool**.  
Clear the computer memory.  
Carry out a road test, then check with the **diagnostic tool**.

V42\_V04\_PR059 / V42\_V06\_PR059

**PR064**

### COOLANT TEMPERATURE

#### **PARAMETER DEFINITION**

This parameter indicates the engine coolant temperature in °C.

#### **NOTES**

**There must be no present or stored faults.**

Perform this fault finding procedure:

- after finding an inconsistency in the parameter,
- after a customer complaint (e.g. lack of power).

Conformity check with engine stopped and ignition on.

With the ignition on the coolant temperature varies according to the exterior temperature.

In the event of a fault, consult the interpretation of fault **DF001 Coolant temperature sensor circuit**.

Conformity check with the engine running and engine coolant temperature > 80°C

With the engine running at idle speed the coolant temperature varies according to the engine temperature.  
If there is a fault, refer to the interpretation of fault **DF001**.

#### **AFTER REPAIR**

Deal with any faults displayed by the **diagnostic tool**.

Clear the computer memory.

Carry out a road test, then check with the **diagnostic tool**.

**PR071**

### COMPUTER SUPPLY VOLTAGE

#### **PARAMETER DEFINITION**

This parameter indicates the computer supply voltage in **volts**.

Conformity check: Engine stopped and ignition on, or engine running, and engine coolant temperature > 80°C.

The voltage should be between:

**9 V < PR071 < 16 V**

In the event of a fault, run fault finding on the charging circuit (see **16A, Checking the charging circuit**) and refer to the interpretation of **DF047 Computer supply voltage**.

#### **AFTER REPAIR**

Deal with any faults displayed by the **diagnostic tool**.  
Clear the computer memory.  
Carry out a road test, then check with the **diagnostic tool**.

V42\_V04\_PR071 / V42\_V06\_PR071

**PR089**

### VEHICLE SPEED

#### **PARAMETER DEFINITION**

Gives the vehicle speed in **km/h**.

Conformity check: Engine stopped and ignition on, or engine running, and engine coolant temperature > 80°C.

Carry out a road test, observing the vehicle speed on the instrument panel and the information given by the diagnostic tool.

If there is an inconsistency between the two values, run complete fault finding on the ABS computer (see **38C, ABS**).

#### **AFTER REPAIR**

Deal with any faults displayed by the **diagnostic tool**.  
Clear the computer memory.  
Carry out a road test, then check with the **diagnostic tool**.

V42\_V04\_PR089 / V42\_V06\_PR089

**PR097**

MOTORISED THROTTLE VALVE LOWER STOP PROGRAMMED  
VALUE

**PARAMETER  
DEFINITION**

This parameter indicates the programmed throttle valve upper stop value as a %.

Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80°C

The value must be ≈ **9%**.

In the event of a fault, apply the interpretation of **ET051 Throttle stop programming**.

**AFTER REPAIR**

Deal with any faults displayed by the **diagnostic tool**.  
Clear the computer memory.  
Carry out a road test, then check with the **diagnostic tool**.

V42\_V04\_PR097 / V42\_V06\_PR097

**PR098**

### UPSTREAM OXYGEN SENSOR VOLTAGE

#### **PARAMETER DEFINITION**

This parameter indicates the upstream oxygen sensor voltage in **millivolts**.

Conformity check with the engine running and engine coolant temperature > 80°C

The upstream oxygen sensor voltage must be between:

**20 mV < PR098 < 1395 mV.**

In the event of a fault, apply interpretation of **DF092 Upstream oxygen sensor circuit**.

#### **AFTER REPAIR**

Deal with any faults displayed by the **diagnostic tool**.

Clear the computer memory.

Carry out a road test, then check with the **diagnostic tool**.



**PR099**

### DOWNSTREAM OXYGEN SENSOR VOLTAGE

#### **PARAMETER DEFINITION**

This parameter indicates the downstream oxygen sensor voltage in **millivolts**

Conformity check with the engine running and engine coolant temperature > 80°C

The downstream oxygen sensor voltage must be between:

**0 mV < PR099 < 1000 mV.**

In the event of a fault, apply interpretation of **DF093 Downstream oxygen sensor circuit**.

#### **AFTER REPAIR**

Carry out a road test, then check with the **diagnostic tool**.

**PR102**

CANISTER BLEED SOLENOID VALVE OCR\*

**PARAMETER  
DEFINITION**

This parameter indicates the canister bleed solenoid valve opening cyclic ratio in %.

Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80°C

The value must be **between 0% and 100%**.

\* ocr = opening cyclic ratio

**AFTER REPAIR**

Carry out a road test, then check with the **diagnostic tool**.

**PR118**

MEASURED THROTTLE POSITION GANG 1

**PARAMETER  
DEFINITION**

This parameter indicates the motorised throttle valve 1 position setpoint as a %.

Conformity check with the engine running and engine coolant temperature > 80°C

With the engine idling, the value must be  $\approx 13\%$ .

If there is a fault, use the interpretation of **DF095 Throttle potentiometer circuit gang 1**.

**AFTER REPAIR**

Carry out a road test, then check with the **diagnostic tool**.

**PR119**

### MEASURED THROTTLE POSITION GANG 2

#### **PARAMETER DEFINITION**

This parameter indicates the motorised throttle valve 2 position setpoint as a %.

Conformity check with the engine running and engine coolant temperature > 80°C

With the engine idling, the value must be  $\approx 13\%$ .

If there is a fault, use the interpretation of **DF096 Throttle potentiometer circuit gang 2**

#### **AFTER REPAIR**

Carry out a road test, then check with the **diagnostic tool**.

**PR138**

### RICHNESS CORRECTION

#### **PARAMETER DEFINITION**

This parameter indicates the richness correction as a %.

Conformity check with the engine running and engine coolant temperature > 80°C

This value changes according to the richness signals from the computer.  
The richness correction value must be  $\approx$  **50%**.

#### **AFTER REPAIR**

Carry out a road test, then check with the **diagnostic tool**.

**PR139**

### RICHNESS ADAPTIVE OPERATION

#### **PARAMETER DEFINITION**

There must be no faults present.

Conformity check with the engine running and engine coolant temperature > 80°C

Check the sealing of the fuel vapour absorber bleed.

Repair if necessary.

With the engine warm in the idle speed regulation phase, look at parameter **PR139**.

- If the parameter goes to **MAXIMUM stop**, there is not enough fuel or too much air in the mixture.
- If the parameter goes to **MINIMUM stop**, there is too much fuel or not enough air in the mixture.

Check the cleanliness and correct operation of:

- petrol filter,
- petrol pump,
- fuel circuit,
- tank,
- air supply pipe,
- air filter,
- plugs.

Repair if necessary.

Check:

- the compressions,
- the valve clearance,
- the ignition.

Repair if necessary.

#### **AFTER REPAIR**

Carry out a road test, then check with the **diagnostic tool**.

**PR147**

### PEDAL POTENTIOMETER GANG 1 VOLTAGE

#### **PARAMETER DEFINITION**

This parameter indicates the pedal potentiometer gang 1 voltage in **volts**.

Conformity check: Engine stopped and ignition on, or engine running, and engine coolant temperature > 80°C.

The value must be ≈ **0.72 V** and varies according to the status of the pedal.  
In the event of a fault, apply the interpretation of fault **DF974 Pedal potentiometer circuit gang 1**.

#### **AFTER REPAIR**

Carry out a road test, then check with the **diagnostic tool**.

**PR148**

### PEDAL POTENTIOMETER GANG 2 VOLTAGE

#### **PARAMETER DEFINITION**

This parameter indicates the pedal potentiometer gang 2 voltage in **volts**.

Conformity check: Engine stopped and ignition on, or engine running, and engine coolant temperature > 80°C.

The value must be  $\approx 0.52 \text{ V}$  and varies according to the status of the pedal.  
In the event of a fault, apply the interpretation of fault **DF975 Pedal potentiometer circuit gang 2**.

#### **AFTER REPAIR**

Deal with any faults displayed by the **diagnostic tool**.  
Clear the computer memory.  
Carry out a road test, then check with the **diagnostic tool**.



**PR215**

### SENSOR SUPPLY VOLTAGE NO. 1

#### **PARAMETER DEFINITION**

This parameter indicates the supply voltage no. 1 of the sensors in **Volts**.

Conformity check: Engine stopped and the ignition on, or the engine running and the engine coolant temperature > 80°C without electrical consumers.

The voltage of **PR215** is approximately **5000 mV**.

In the event of a fault, run fault finding on the charging circuit and consult the interpretation of **DF011 Sensor supply voltage no. 1**.

#### **AFTER REPAIR**

Deal with any faults displayed by the **diagnostic tool**.  
Clear the computer memory.  
Carry out a road test, then check with the **diagnostic tool**.

V42\_V04\_PR215 / V42\_V06\_PR215

**PR216**

### SENSOR SUPPLY VOLTAGE NO. 2

#### **PARAMETER DEFINITION**

This parameter indicates the supply voltage no. 2 of the sensors in **Volts**.

Conformity check: Engine stopped and the ignition on, or the engine running and the engine coolant temperature > 80°C without electrical consumers.

The voltage of **PR216** is approximately **5000 mV**.

In the event of a fault, run fault finding on the charging circuit and consult the interpretation of **DF012 Sensor supply voltage no. 2**.

#### **AFTER REPAIR**

Deal with any faults displayed by the **diagnostic tool**.  
Clear the computer memory.  
Carry out a road test, then check with the **diagnostic tool**.

V42\_V04\_PR216 / V42\_V06\_PR216

**PR312**

### MANIFOLD PRESSURE

#### **PARAMETER DEFINITION**

This parameter indicates the manifold pressure in **mbar**.

Conformity check with the engine running and engine coolant temperature > 80°C

**With the engine idling**, the value must be  $\approx$  **500 mbar**.

**With the engine running and throttle open**, the value must be  $\approx$  **1000 mbar**.

#### **AFTER REPAIR**

Deal with any faults displayed by the **diagnostic tool**.

Clear the computer memory.

Carry out a road test, then check with the **diagnostic tool**.

V42\_V04\_PR312 / V42\_V06\_PR312

**PR427**

### AVERAGE PINKING SIGNAL

#### **PARAMETER DEFINITION**

This parameter indicates the average pinking signal.

Conformity check with the engine running and engine coolant temperature > 80°C

This parameter varies according to the pinking status in the combustion chamber.  
In the event of a fault, apply the interpretation of fault **DF088 Pinking sensor circuit**.

#### **AFTER REPAIR**

Carry out a road test, then check with the **diagnostic tool**.

**PR429**

### MEASURED THROTTLE POSITION

#### **PARAMETER DEFINITION**

This parameter indicates the throttle valve position measured as a %.

Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80°C

Without action on the accelerator pedal, the value must be  $\approx 10\%$ .

When the accelerator pedal is fully depressed, the value must be  $\approx 85\%$ .

In the event of a fault, apply the interpretation of faults **DF095 Throttle potentiometer circuit gang 1** and **DF096 Throttle potentiometer circuit gang 2**.

#### **AFTER REPAIR**

Carry out a road test, then check with the **diagnostic tool**.

**PR444**

### BUILT-IN CORRECTION FOR IDLE SPEED REGULATION

#### **PARAMETER DEFINITION**

This parameter indicates the built-in correction for idle speed regulation in N.m.

Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80°C

The built-in idle speed regulation correction is continuously calculated to take into account consumer air demand.

#### **AFTER REPAIR**

Carry out a road test, then check with the **diagnostic tool**.

**PR446**

### UPSTREAM O2 SENSOR HEATING RESISTOR

#### **PARAMETER DEFINITION**

This parameter indicates the heating resistance of the downstream oxygen sensor in **Ohms**.

Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80°C

The value must be **≈ 9 Ω at 20°C**.

#### **AFTER REPAIR**

Carry out a road test, then check with the **diagnostic tool**.

**PR447**

### DOWNSTREAM O2 SENSOR HEATING RESISTOR

#### **PARAMETER DEFINITION**

This parameter indicates the heating resistance of the downstream oxygen sensor in **Ohms**.

Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80°C

The value must be **≈ 9 Ω at 20°C**.

#### **AFTER REPAIR**

Carry out a road test, then check with the **diagnostic tool**.



**PR448**

### IGNITION ADVANCE

#### **PARAMETER DEFINITION**

This parameter indicates the ignition advance in **volts**.

Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80°C

The value must be  $\approx 0^\circ \text{ V}$  with the ignition on and **4 V** at idle speed.  
In the event of a fault, apply the interpretation of fault **DF120 Engine speed sensor signal**.

#### **AFTER REPAIR**

Deal with any faults displayed by the **diagnostic tool**.  
Clear the computer memory.  
Carry out a road test, then check with the **diagnostic tool**.

V42\_V04\_PR448 / V42\_V06\_PR448

**PR538**

MEASURED THROTTLE VOLTAGE, GANG 2

**PARAMETER  
DEFINITION**

This parameter indicates the throttle valve gang 2 voltage measured in **volts**.

**Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80°C**

The value must be  $\approx$  **0.60 V**.

In the event of a fault, apply the interpretation of fault **DF096 Throttle potentiometer circuit gang 2**.

**AFTER REPAIR**

Deal with any faults displayed by the **diagnostic tool**.  
Clear the computer memory.  
Carry out a road test, then check with the **diagnostic tool**.

V42\_V04\_PR538 / V42\_V06\_PR538

**PR539**

### THROTTLE VALVE GANG 1 MEASURE VOLTAGE

#### **PARAMETER DEFINITION**

This parameter indicates the throttle valve voltage, gang 1 measured in **volts**.

Conformity check with engine stopped and ignition on, or engine running, and engine coolant temperature > 80°C

The value must be ≈ **0.35 V**.

In the event of a fault, apply the interpretation of fault **DF095 Throttle potentiometer circuit gang 1**.

#### **AFTER REPAIR**

Carry out a road test, then check with the **diagnostic tool**.

**PR814**

### NUMBER OF ACTIVE HEATING RESISTORS

#### **PARAMETER DEFINITION**

This parameter indicates the number of active heating resistors and can be between **0** to **5** depending on the relays activated.

- 0** if no relay is active
- 1** if relay 1 is active
- 2** if relay 2 is active
- 3** if relays 1 and 2 are active
- 4** if relays 2 and 3 are active
- 5** if all of the relays are active

Conformity check: Engine stopped and ignition on, or engine running, and engine coolant temperature < 80°C

In the event of a fault, consult the interpretation of faults:

**DF992 Additional heater relay 1 circuit,**  
**DF993 Additional heater relay 2 circuit,**  
**DF994 Additional heater relay 3 circuit.**

#### **AFTER REPAIR**

Carry out a road test, then check with the **diagnostic tool**.

## Fault finding – Command summary table

| Tool command | Diagnostic tool title                            | Comments   |
|--------------|--|--|
| <b>RZ001</b> | <b>Fault memory</b>                              | This command is used to clear the faults stored in the computer.                                     |
| <b>RZ003</b> | <b>Engine adaptives</b>                          | This command enables a long engine start time.   |
| <b>RZ031</b> | <b>Throttle stop programming</b>                 | This command is used to reset the necessary system adaptives if replacing the throttle valve.        |
| <b>RZ033</b> | <b>Richness regulation programming</b>           | This command is used to reset the necessary system adaptives if replacing the injectors.             |
| <b>RZ037</b> | <b>Flywheel target programming</b>               | This command is used to reset the necessary system adaptives if replacing the TDC* sensor.           |
|              |  |  |
| <b>AC005</b> | <b>Cylinder 1 injector</b>                       | This command is used to perform an audible check on injector 1.                                      |
| <b>AC006</b> | <b>Cylinder 2 injector</b>                       | This command is used to perform an audible check on injector 2.                                      |
| <b>AC007</b> | <b>Cylinder 3 injector</b>                       | This command is used to perform an audible check on injector 3.                                      |
| <b>AC008</b> | <b>Cylinder 4 injector</b>                       | This command is used to perform an audible check on injector 4.                                      |
| <b>AC015</b> | <b>Fuel pump relay</b>                           | This command is used to check the fuel pump.   |
| <b>AC017</b> | <b>Canister bleed solenoid valve</b>             | This command is used to check the canister bleed solenoid valve.                                     |
| <b>AC027</b> | <b>Motorised throttle</b>                        | This command is used to check the motorised throttle.  |
| <b>AC038</b> | <b>Low speed GMV** relay</b>                     | This command is used to check the low speed GMV** relay.   |
| <b>AC039</b> | <b>High speed GMV** relay</b>                    | This command is used to check the high speed GMV** relay.  |
| <b>AC180</b> | <b>Air conditioning compressor relay control</b> | This command is used to check the air conditioning compressor relay.                                 |
| <b>AC217</b> | <b>Additional fuel circuit solenoid valve</b>    | This command is used to check the additional fuel circuit solenoid valve. Only on Flexfuel injection |
| <b>AC224</b> | <b>Additional fuel circuit pump relay</b>        | This command is used to check the additional fuel circuit pump relay. Only on Flexfuel injection     |

TDC\*: Top Dead Centre

GMV\*\*: Fan assembly

|              |  |  |
|--------------|--|--|
| <b>AC250</b> | <b>Heating resistor 1 relay</b>            | This command is used to activate the heating resistor no.1 relay.  |
| <b>AC251</b> | <b>Heating resistor 2 relay</b>            | This command is used to activate the heating resistor no.2 relay.  |
| <b>AC252</b> | <b>Heating resistor 3 relay</b>            | This command is used to activate the heating resistor no.3 relay.  |
| <b>SC001</b> | <b>Write saved data</b>                    | Use this command after replacing or (re)programming the computer (if the data has been saved using command <b>SC003</b> ). |
| <b>SC003</b> | <b>Save computer data</b>                  | This command enables the computer operating data, the engine adaptives, to be recorded.                                    |
| <b>SC006</b> | <b>Start OBD test: Catalytic converter</b> | This command is used to test the catalytic converter.  |
| <b>SC007</b> | <b>Start OBD test: O2 sensor</b>           | This command is used to test the O2 sensors.   |
|              |  |  |
| <b>VP010</b> | <b>Enter VIN.</b>                          | This command is used to enter the <b>VIN</b> .   |
| <b>VP036</b> | <b>Fuel supply inhibited</b>               | This command is used to inhibit fuel supply to the engine.   |
| <b>VP037</b> | <b>Lift fuel supply inhibition</b>         | This command is used to stop command <b>VP036</b> .  |

# PETROL INJECTION

## Fault finding – Customer complaints

# 17B

### NOTES

#### Special note:

Only address this customer complaint after a **complete check** with the **diagnostic tool**.

NO COMMUNICATION WITH THE COMPUTER

ALP 1

GENERAL APPEARANCE OF ENGINE COMPARTMENT

ALP 2

APPEARANCE AND MOUNTING OF THE EXHAUST

ALP 3

LEAK FROM THE ENGINE

FUEL LEAK

ALP 4

ENGINE OIL LEAK

ALP 5

COOLANT LEAK

ALP 6

ODOURS UNDER BONNET

UNUSUAL ODOUR

ALP 7

FUEL ODOUR

ALP 8

SMOKE UNDER BONNET

ABNORMAL SMOKE IN THE ENGINE COMPARTMENT

ALP 9

EXHAUST SMOKE

WHITE SMOKE FROM THE EXHAUST

ALP 10

BLACK SMOKE FROM THE EXHAUST

ALP 11

BLUE SMOKE FROM THE EXHAUST

ALP 12

**EXCESSIVE CONSUMPTION**

EXCESSIVE FUEL CONSUMPTION

ALP 13

EXCESSIVE COOLANT CONSUMPTION

ALP 14

EXCESSIVE OIL CONSUMPTION

ALP 15

**ENGINE STARTING**

IMPOSSIBLE TO START THE ENGINE

ALP 16

ENGINE STALLS WHEN COLD

ALP 17

THE ENGINE STARTS WITH DIFFICULTY

ALP 18

**PERFORMANCE**

LACK OF POWER OR TORQUE

ALP 19

ACCELERATION GAP

ALP 20

**DRIVING PLEASURE**

ROUGH IDLE

ALP 21

IDLE SPEED TOO HIGH OR TOO LOW

ALP 22

JERKING OR HESITATION

ALP 23

ENGINE STALLS

ALP 24

ERRATIC ACCELERATION

ALP 25

ERRATIC DECELERATION

ALP 26

ENGINE RACING (WITHOUT ACTION ON THE PEDAL)

ALP 27



# PETROL INJECTION

## Fault finding – Fault Finding Chart

17B

|       |                               |
|-------|-------------------------------|
| ALP 1 | No dialogue with the computer |
|-------|-------------------------------|

|       |  |
|-------|--|
| NOTES | See the <b>Wiring Diagrams Technical Note for Logan, Sandero, Duster</b> . |
|-------|--|

Try to establish dialogue with a computer on another vehicle to make sure that the **diagnostic tool** is not faulty. If the tool is not the cause and communication cannot be established with any other computer on the same vehicle, it is possible that another computer is disrupting the multiplex network.

Check the voltage of the battery.

If the battery voltage is between **9.5 V** and **17.5 V**, run fault finding on the charging circuit.

- Check the presence and condition of the injection fuses on the UPC and in the engine fuse box.
- Check the connection of the computer connectors, component code **120**.
- Check the **injection computer** earths (quality, oxidation, tightness of the earth bolts on the battery terminal).
- Check that the supply to the computer is correct:
  - **Earth** on connection **NH** of component **120**,
  - **+ 12V** on connection **3FB** of component **120**.

If the connection(s) are faulty and there is a repair method (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

Check that the **diagnostic socket**, component code **225** is correctly supplied:

- **+ Before ignition feed** on connection **BP56** of component **225**,
- **+ After ignition feed** on connection **AP10** of component **225**,
- **Earth** on connections **MAM** and **NC** of component **225**.

If the connection(s) are faulty and there is a repair method (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If dialogue has still not been established after these checks, contact the techline.

|              |   |
|--------------|---|
| AFTER REPAIR | Carry out a road test, then check with the <b>diagnostic tool</b> . |
|--------------|---|

# PETROL INJECTION

## Fault finding – Fault Finding Chart

17B

|              |   |
|--------------|---|
| <b>ALP 2</b> | <b>General appearance of engine compartment</b> |
|--------------|---|

|   |
|---|
| Check the fan assembly  |
| Check the air filter unit.  |
| Check the inlet manifold air pressure sensor by running <b>TEST 7 Air inlet pressure sensor check</b> . |
| Check the air pipes.  |
| Check the coolant temperature sensor by running <b>TEST 15 Coolant temperature sensor check</b> .       |
| Check the injector rail.  |
| Check the inlet manifold.   |
| Check the oil filter.   |
| Check the catalytic converter.  |
| Check the exhaust manifold.   |
| Check the accessories belt.   |
| Check the dipstick.   |
| If the fault is still present, contact the Techline.  |

|                     |   |
|---------------------|---|
| <b>AFTER REPAIR</b> | Carry out a road test, then check with the <b>diagnostic tool</b> . |
|---------------------|---|

**ALP 3**

**Appearance and mounting of the exhaust**

Check the catalytic converter.

Check the exhaust manifold.

Check the cylinder head.

If the fault is still present, contact the Techline.

**AFTER REPAIR**

Carry out a road test, then check with the **diagnostic tool**.

# PETROL INJECTION

## Fault finding – Fault Finding Chart

17B

**ALP 4**

**Fuel leak**

Check the fuel pump relay by running **TEST 1 Fuel supply pump relay check**.

Check the air pipes.

Check the additional fuel circuit solenoid valve by running **TEST 5 Checking the additional fuel tank**.

Check the spark plugs.

Check the injector rail.

Check the additional petrol circuit pump by running **TEST 12 Additional fuel tank pump check**.

If the fault is still present, contact the Techline.

**AFTER REPAIR**

Carry out a road test, then check with the **diagnostic tool**.

# PETROL INJECTION

## Fault finding – Fault Finding Chart

17B

### ALP 5

### Engine oil leak

Check the air filter unit.

Check the oil filler cap.

Check the air pipes.

Check the inlet manifold.

Check the oil filter.

Check the oil circuit.

Check the oil pump.

Check the cylinder head.

Check the camshaft.

Check the rotating parts.

Check the dipstick.

If the fault is still present, contact the Techline.

### AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.

# PETROL INJECTION

## Fault finding – Fault Finding Chart

17B

**ALP 6**

**Coolant leak**

Check the coolant pump.

Check the cylinder head.

Check the cooling system.

If the fault is still present, contact the Techline.

**AFTER REPAIR**

Carry out a road test, then check with the **diagnostic tool**.

# PETROL INJECTION

## Fault finding – Fault Finding Chart

17B

**ALP 7**

**Unusual odour**

Check the air pipes.

Check the catalytic converter.

Check the coolant pump.

Check the exhaust manifold.

Check the cylinder head.

Check the timing.

Check the cooling system.

If the fault is still present, contact the Techline.

**AFTER REPAIR**

Carry out a road test, then check with the **diagnostic tool**.

# PETROL INJECTION

## Fault finding – Fault Finding Chart

17B

**ALP 8**

**Fuel odours**

Check the air pipes.

Check the injector rail.

Check the inlet manifold.

If the fault is still present, contact the Techline.

**AFTER REPAIR**

Carry out a road test, then check with the **diagnostic tool**.



**ALP 9**

**Abnormal smoke in the engine compartment**

Check the air pipes.

Check the injector rail.

Check the inlet manifold.

Check the oil circuit.

Check the catalytic converter.

Check the coolant pump.

Check the exhaust manifold.

Check the cylinder head.

Check the timing.

Check the cooling system.

If the fault is still present, contact the Techline.

**AFTER REPAIR**

Carry out a road test, then check with the **diagnostic tool**.

# PETROL INJECTION

## Fault finding – Fault Finding Chart

17B

**ALP 10**

**White smoke from the exhaust**

Check the air filter unit.

Check the air pipes.

Check the inlet manifold.

Check the exhaust manifold.

If the fault is still present, contact the Techline.

**AFTER REPAIR**

Carry out a road test, then check with the **diagnostic tool**.

# PETROL INJECTION

## Fault finding – Fault Finding Chart

17B

**ALP 11**

**Black smoke from the exhaust**

Check the air filter unit.

Check the air pipes.

Check the air inlet temperature sensor by running **TEST 6 Checking the air temperature sensor.**

Check the coolant temperature sensor by running **TEST 15 Coolant temperature sensor check.**

Check the injector rail.

Check the injectors by running **TEST 13 Checking the injectors.**

Check the upstream oxygen sensor by running **TEST 17 Checking the upstream O2 sensor.**

Check the downstream oxygen sensor by running **TEST 18 Checking the downstream O2 sensor.**

If the fault is still present, contact the Techline.

**AFTER REPAIR**

Carry out a road test, then check with the **diagnostic tool.**

# PETROL INJECTION

## Fault finding – Fault Finding Chart

17B

**ALP 12**

**Blue smoke from the exhaust**

Check the oil.

Check the coolant temperature sensor by running **TEST 15 Coolant temperature sensor check**.

Check the spark plugs.

Check the ignition coil by running **TEST 14 Checking the ignition coil**.

Check the injectors by running **TEST 13 Checking the injectors**.

Check the oil filter.

Check the oil circuit.

Check the exhaust manifold.

Check the oil pump.

Check the pistons and piston rings.

Check the cylinder head.

Check the inlet and exhaust valves.

Check the rotating parts.

If the fault is still present, contact the Techline.

**AFTER REPAIR**

Carry out a road test, then check with the **diagnostic tool**.

# PETROL INJECTION

## Fault finding – Fault Finding Chart

17B

**ALP 13**

**Excessive fuel consumption**

Check the air filter unit.

Check the air pipes.

Check the additional fuel circuit solenoid valve by running **TEST 5 Checking the additional fuel tank.**

Check the injector rail.

Check the injectors by running **TEST 13 Checking the injectors.**

Check the additional petrol circuit pump by running **TEST 12 Additional fuel tank pump check.**

Check the pinking sensor by running **TEST 11 Pinking sensor check.**

Check the upstream oxygen sensor by running **TEST 17 Checking the upstream O2 sensor.**

Check the downstream oxygen sensor by running **TEST 18 Checking the downstream O2 sensor.**

Check the catalytic converter.

Check the camshaft.

If the fault is still present, contact the Techline.

**AFTER REPAIR**

Carry out a road test, then check with the **diagnostic tool.**

**ALP 14**

**Excessive coolant consumption**

Check the engine cooling fan assembly.

Check the coolant pump.

Check the cylinder head.

Check the cooling system.

If the fault is still present, contact the Techline.

**AFTER REPAIR**

Carry out a road test, then check with the **diagnostic tool**.

**ALP 15**

**Excessive oil consumption**

Check the engine cooling fan assembly.

Check the oil circuit.

Check the oil filter.

Check the pistons and piston rings.

Check the cylinder head.

Check the valves.

Check the rotating parts.

Check the dipstick.

If the fault is still present, contact the Techline.

**AFTER REPAIR**

Carry out a road test, then check with the **diagnostic tool**.

# PETROL INJECTION

## Fault finding – Fault Finding Chart

17B

**ALP 16**

**Impossible to start the engine**

Check the fuel pump relay by running **TEST 1 Petrol supply pump relay check.**

Check the air filter unit.

Check the oil.

Check the air pipes.

Check the additional fuel circuit solenoid valve by running **TEST 5 Checking the additional fuel tank.**

Check the spark plugs.

Check the injector rail.

Check the additional petrol circuit pump by running **TEST 12 Additional fuel tank pump check.**

Check the TDC sensor by running **TEST 10 TDC sensor check.**

Check the coolant pump.

Check the cylinder head.

Check the camshaft.

Check the valves.

Check the timing.

Check the rotating parts.

Check the accessories belt.

Check the supply relay and the injection computer.

If the fault is still present, contact the Techline.

**AFTER REPAIR**

Carry out a road test, then check with the **diagnostic tool.**



# PETROL INJECTION

## Fault finding – Fault Finding Chart

17B

**ALP 17**

**Engine stalls when cold**

Check the air filter unit.

Check the oil.

Check the inlet manifold air pressure sensor by running **TEST 7 Air inlet pressure sensor check**.

Check the air pipes.

Check the additional fuel circuit solenoid valve by running **TEST 5 Checking the additional fuel tank**.

Check the coolant temperature sensor by running **TEST 15 Coolant temperature sensor check**.

Check the injector rail.

Check the injectors by running **TEST 13 Injector check**.

Check the additional petrol circuit pump by running **TEST 12 Additional fuel tank pump check**.

Check the TDC sensor by running **TEST 10 TDC sensor check**.

Check the upstream oxygen sensor by running **TEST 17 Checking the upstream O2 sensor**.

Check the camshaft.

Check the valves.

Check the timing.

Check the injection computer.

If the fault is still present, contact the Techline.

**AFTER REPAIR**

Carry out a road test, then check with the **diagnostic tool**.

# PETROL INJECTION

## Fault finding – Fault Finding Chart

# 17B

|               |   |
|---------------|---|
| <b>ALP 18</b> | <b>The engine starts with difficulty.</b> |
|---------------|---|

|  |
|--|
| Check the air filter unit.   |
| Check the oil.   |
| Check the inlet manifold air pressure sensor by running <b>TEST 7 Air inlet pressure sensor check.</b>       |
| Check the air pipes.   |
| Check the throttle valve by running <b>TEST 3 Throttle valve check.</b>                                      |
| Check the additional fuel circuit solenoid valve by running <b>TEST 5 Checking the additional fuel tank.</b> |
| Check the coolant temperature sensor by running <b>TEST 15 Coolant temperature sensor check.</b>             |
| Check the spark plugs.   |
| Check the injector rail.   |
| Check the ignition coil by running <b>TEST 14 Checking the ignition coil.</b>                                |
| Check the injectors by running <b>TEST 13 Checking the injectors.</b>  |
| Check the additional petrol circuit pump by running <b>TEST 12 Additional fuel tank pump check.</b>          |
| Check the TDC sensor by running <b>TEST 10 TDC sensor check.</b>   |
| Check the coolant pump.  |
| Check the oil pump.  |
| Check the cylinder head.   |
| Check the camshaft.  |
| Check the valves.  |
| Check the timing.  |
| Check the cooling system.  |
| Check the rotating parts.  |
| Check the accessories belt.  |
| Check the supply relay and the injection computer.   |
| If the fault is still present, contact the Techline.   |

|                     |  |
|---------------------|--|
| <b>AFTER REPAIR</b> | Carry out a road test, then check with the <b>diagnostic tool.</b> |
|---------------------|--|

# PETROL INJECTION

## Fault finding – Fault Finding Chart

# 17B

|               |                                |
|---------------|--------------------------------|
| <b>ALP 19</b> | <b>Lack of power or torque</b> |
|---------------|--------------------------------|

|  |
|--|
| Check the air filter unit.   |
| Check that the floor carpet is correctly positioned.   |
| Check the engine cooling fan assembly.   |
| Check the accelerator pedal potentiometer by running <b>TEST 8 Accelerator pedal potentiometer check.</b>    |
| Check the air filter unit.   |
| Check the inlet manifold air pressure sensor by running <b>TEST 7 Air inlet pressure sensor check.</b>       |
| Check the air pipes.   |
| Check the air inlet temperature sensor by running <b>TEST 6 Checking the air temperature sensor.</b>         |
| Check the throttle valve by running <b>TEST 3 Throttle valve check.</b>                                      |
| Check the additional fuel circuit solenoid valve by running <b>TEST 5 Checking the additional fuel tank.</b> |
| Check the spark plugs.   |
| Check the injector rail.   |
| Check the inlet manifold.  |
| Check the ignition coil by running <b>TEST 14 Checking the ignition coil.</b>                                |
| Check the injectors by running <b>TEST 13 Checking the injectors.</b>  |
| Check the additional petrol circuit pump by running <b>TEST 12 Additional fuel tank pump check.</b>          |
| Check the TDC sensor by running <b>TEST 10 TDC sensor check.</b>   |
| Check the pinking sensor by running <b>TEST 11 Pinking sensor check.</b>                                     |
| Check the oil circuit.   |
| Check the oil filter.  |
| Check the upstream oxygen sensor by running <b>TEST 17 Checking the upstream O2 sensor.</b>                  |

|                     |  |
|---------------------|--|
| <b>AFTER REPAIR</b> | Carry out a road test, then check with the <b>diagnostic tool.</b> |
|---------------------|--|

# PETROL INJECTION

## Fault finding – Fault Finding Chart

17B

### ALP 19 CONTINUED

Check the downstream oxygen sensor by running **TEST 18 Checking the downstream O2 sensor**.

Check the catalytic converter.

Check the exhaust manifold.

Check the pistons and piston rings.

Check the cylinder head.

Check the camshaft.

Check the valves.

Check the timing.

Check the rotating parts.

Check the injection computer.

If the fault is still present, contact the Techline.

### AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.

# PETROL INJECTION

## Fault finding – Fault Finding Chart

# 17B

|   |                                     |
|---|-------------------------------------|
| <b>ALP 20</b>   | <b>Flat spots when accelerating</b> |
| Check the accelerator pedal potentiometer by running <b>TEST 8 Accelerator pedal potentiometer check</b> .    |                                     |
| Check the brake pedal switch by running <b>TEST 9 Brake pedal switch check</b> .                              |                                     |
| Check the air filter unit.  |                                     |
| Check the inlet manifold air pressure sensor by running <b>TEST 7 Air inlet pressure sensor check</b> .       |                                     |
| Check the air pipes.  |                                     |
| Check the air inlet temperature sensor by running <b>TEST 6 Checking the air temperature sensor</b> .         |                                     |
| Check the throttle valve by running <b>TEST 3 Throttle valve check</b> .                                      |                                     |
| Check the additional fuel circuit solenoid valve by running <b>TEST 5 Checking the additional fuel tank</b> . |                                     |
| Check the spark plugs.  |                                     |
| Check the injector rail.  |                                     |
| Check the inlet manifold.   |                                     |
| Check the ignition coil by running <b>TEST 14 Checking the ignition coil</b> .                                |                                     |
| Check the injectors by running <b>TEST 13 Checking the injectors</b> .  |                                     |
| Check the additional petrol circuit pump by running <b>TEST 12 Additional fuel tank pump check</b> .          |                                     |
| Check the TDC sensor by running <b>TEST 10 TDC sensor check</b> .   |                                     |
| Check the pinking sensor by running <b>TEST 11 Pinking sensor check</b> .                                     |                                     |
| Check the upstream oxygen sensor by running <b>TEST 17 Checking the upstream O2 sensor</b> .                  |                                     |
| Check the downstream oxygen sensor by running <b>TEST 18 Checking the downstream O2 sensor</b> .              |                                     |
| Check the catalytic converter.  |                                     |
| Check the camshaft.   |                                     |
| Check the valves.   |                                     |
| Check the timing.   |                                     |
| Check the injection computer.   |                                     |
| If the fault is still present, contact the Techline.  |                                     |

|                     |   |
|---------------------|---|
| <b>AFTER REPAIR</b> | Carry out a road test, then check with the <b>diagnostic tool</b> . |
|---------------------|---|

# PETROL INJECTION

## Fault finding – Fault Finding Chart

**17B**

|  |                   |
|--|-------------------|
| <b>ALP 21</b>  | <b>Rough idle</b> |
| Check the alternator charge signal module by running <b>TEST 2 Alternator signal module check.</b>           |                   |
| Check the accelerator pedal potentiometer by running <b>TEST 8 Accelerator pedal potentiometer check.</b>    |                   |
| Check the air filter unit.   |                   |
| Check the inlet manifold air pressure sensor by running <b>TEST 7 Air inlet pressure sensor check.</b>       |                   |
| Check the throttle valve by running <b>TEST 3 Throttle valve check.</b>                                      |                   |
| Check the additional fuel circuit solenoid valve by running <b>TEST 5 Checking the additional fuel tank.</b> |                   |
| Check the spark plugs.   |                   |
| Check the injector rail.   |                   |
| Check the inlet manifold.  |                   |
| Check the ignition coil by running <b>TEST 14 Checking the ignition coil.</b>                                |                   |
| Check the injectors by running <b>TEST 13 Checking the injectors.</b>  |                   |
| Check the additional petrol circuit pump by running <b>TEST 12 Additional fuel tank pump check.</b>          |                   |
| Check the upstream oxygen sensor by running <b>TEST 17 Checking the upstream O2 sensor.</b>                  |                   |
| Check the downstream oxygen sensor by running <b>TEST 18 Checking the downstream O2 sensor.</b>              |                   |
| Check the cylinder head.   |                   |
| Check the camshaft.  |                   |
| Check the valves.  |                   |
| Check the timing.  |                   |
| Check the rotating parts.  |                   |
| Check the injection computer.  |                   |
| Check the injection pump.  |                   |
| If the fault is still present, contact the Techline.   |                   |

|                     |  |
|---------------------|--|
| <b>AFTER REPAIR</b> | Carry out a road test, then check with the <b>diagnostic tool.</b> |
|---------------------|--|

# PETROL INJECTION

## Fault finding – Fault Finding Chart

17B

|   |   |
|---|---|
| <b>ALP 22</b>   | <b>Idling speed too high or too low</b> |
| Check the alternator charge signal module by running <b>TEST 2 Alternator signal module check</b> .           |   |
| Check the accelerator pedal potentiometer by running <b>TEST 8 Accelerator pedal potentiometer check</b> .    |   |
| Check the air filter unit.  |   |
| Check the air inlet temperature sensor by running <b>TEST 6 Checking the air temperature sensor</b> .         |   |
| Check the throttle valve by running <b>TEST 3 Throttle valve check</b> .                                      |   |
| Check the additional fuel circuit solenoid valve by running <b>TEST 5 Checking the additional fuel tank</b> . |   |
| Check the coolant temperature sensor by running <b>TEST 15 Coolant temperature sensor check</b> .             |   |
| Check the spark plugs.  |   |
| Check the injector rail.  |   |
| Check the inlet manifold.   |   |
| Check the additional petrol circuit pump by running <b>TEST 12 Additional fuel tank pump check</b> .          |   |
| Check the upstream oxygen sensor by running <b>TEST 17 Checking the upstream O2 sensor</b> .                  |   |
| Check the downstream oxygen sensor by running <b>TEST 18 Checking the downstream O2 sensor</b> .              |   |
| Check the cylinder head.  |   |
| Check the camshaft.   |   |
| Check the valves.   |   |
| Check the timing.   |   |
| Check the injection computer.   |   |
| If the fault is still present, contact the Techline.  |   |

|                     |   |
|---------------------|---|
| <b>AFTER REPAIR</b> | Carry out a road test, then check with the <b>diagnostic tool</b> . |
|---------------------|---|

# PETROL INJECTION

## Fault finding – Fault Finding Chart

# 17B

| ALP 23   | Jerking or hesitation |
|--|-----------------------|
| Check the alternator charge signal module by running <b>TEST 2 Alternator signal module check.</b>           |                       |
| Check the fuel pump relay by running <b>TEST 1 Petrol supply pump relay check.</b>                           |                       |
| Check the accelerator pedal potentiometer by running <b>TEST 8 Accelerator pedal potentiometer check.</b>    |                       |
| Check the brake pedal switch by running <b>TEST 9 Brake pedal switch check.</b>                              |                       |
| Check the air filter unit.   |                       |
| Check the inlet manifold air pressure sensor by running <b>TEST 7 Air inlet pressure sensor check.</b>       |                       |
| Check the air pipes.   |                       |
| Check the air inlet temperature sensor by running <b>TEST 6 Checking the air temperature sensor.</b>         |                       |
| Check the throttle valve by running <b>TEST 3 Throttle valve check.</b>                                      |                       |
| Check the additional fuel circuit solenoid valve by running <b>TEST 5 Checking the additional fuel tank.</b> |                       |
| Check the spark plugs.   |                       |
| Check the injector rail.   |                       |
| Check the inlet manifold.  |                       |
| Check the ignition coil by running <b>TEST 14 Checking the ignition coil.</b>                                |                       |
| Check the injectors by running <b>TEST 13 Checking the injectors.</b>  |                       |
| Check the additional petrol circuit pump by running <b>TEST 12 Additional fuel tank pump check.</b>          |                       |
| Check the TDC sensor by running <b>TEST 10 TDC sensor check.</b>   |                       |
| Check the upstream oxygen sensor by running <b>TEST 17 Checking the upstream O2 sensor.</b>                  |                       |
| Check the downstream oxygen sensor by running <b>TEST 18 Checking the downstream O2 sensor.</b>              |                       |
| Check the camshaft.  |                       |
| Check the valves.  |                       |
| Check the timing.  |                       |
| Check the supply relay and the injection computer.   |                       |
| If the fault is still present, contact the Techline.   |                       |

|                     |  |
|---------------------|--|
| <b>AFTER REPAIR</b> | Carry out a road test, then check with the <b>diagnostic tool.</b> |
|---------------------|--|



# PETROL INJECTION

## Fault finding – Fault Finding Chart

17B

|   |                      |
|---|----------------------|
| <b>ALP 24</b>   | <b>Engine stalls</b> |
| Check the fuel pump relay by running <b>TEST 1 Petrol supply pump relay check</b> .                           |                      |
| Check the air filter unit.  |                      |
| Check the inlet manifold air pressure sensor by running <b>TEST 7 Air inlet pressure sensor check</b> .       |                      |
| Check the air pipes.  |                      |
| Check the additional fuel circuit solenoid valve by running <b>TEST 5 Checking the additional fuel tank</b> . |                      |
| Check the injector rail.  |                      |
| Check the injectors by running <b>TEST 13 Checking the injectors</b> .  |                      |
| Check the additional petrol circuit pump by running <b>TEST 12 Additional fuel tank pump check</b> .          |                      |
| Check the TDC sensor by running <b>TEST 10 TDC sensor check</b> .   |                      |
| Check the upstream oxygen sensor by running <b>TEST 17 Checking the upstream O2 sensor</b> .                  |                      |
| Check the downstream oxygen sensor by running <b>TEST 18 Checking the downstream O2 sensor</b> .              |                      |
| Check the camshaft.   |                      |
| Check the valves.   |                      |
| Check the timing.   |                      |
| Check the injection computer.   |                      |
| Check the injection computer supply relay.  |                      |
| If the fault is still present, contact the Techline.  |                      |

|                     |   |
|---------------------|---|
| <b>AFTER REPAIR</b> | Carry out a road test, then check with the <b>diagnostic tool</b> . |
|---------------------|---|

# PETROL INJECTION

## Fault finding – Fault Finding Chart

17B

**ALP 25**

**Erratic acceleration**

Check that the floor carpet is correctly positioned.

Check the accelerator pedal potentiometer by running **TEST 8 Accelerator pedal potentiometer check**.

If the fault is still present, contact the Techline.

**AFTER REPAIR**

Carry out a road test, then check with the **diagnostic tool**.

# PETROL INJECTION

## Fault finding – Fault Finding Chart

17B

**ALP 26**

**Erratic deceleration**

Check the inlet manifold air pressure sensor by running **TEST 7 Air inlet pressure sensor check**.

Check the throttle valve by running **TEST 3 Throttle valve check**.

If the fault is still present, contact the Techline.

**AFTER REPAIR**

Carry out a road test, then check with the **diagnostic tool**.

**ALP 27**

**Engine racing (without action on the accelerator pedal)**

Check the accelerator pedal potentiometer by running **TEST 8 Accelerator pedal potentiometer check**.

Check the throttle valve by running **TEST 3 Throttle valve check**.

Check the injection computer.

If the fault is still present, contact the Techline.

**AFTER REPAIR**

Carry out a road test, then check with the **diagnostic tool**.

# PETROL INJECTION

## Fault finding – Test summary table

# 17B

|   |   |         |
|---|---|---------|
| Fuel supply pump relay check              | → | TEST 1  |
| Alternator signal module check            | → | TEST 2  |
| Throttle valve check                      | → | TEST 3  |
| Fuel vapour absorber solenoid valve check | → | TEST 4  |
| Additional fuel tank check                | → | TEST 5  |
| Air temperature sensor check              | → | TEST 6  |
| Air inlet pressure sensor check           | → | TEST 7  |
| Accelerator pedal potentiometer check     | → | TEST 8  |
| Brake pedal switch check                  | → | TEST 9  |
| TDC sensor check                          | → | TEST 10 |
| Pinking sensor check                      | → | TEST 11 |
| Additional fuel tank pump check           | → | TEST 12 |
| Injector check                            | → | TEST 13 |
| Ignition coil check                       | → | TEST 14 |
| Coolant temperature sensor check          | → | TEST 15 |
| Fan relay check                           | → | TEST 16 |
| Upstream O2 sensor check                  | → | TEST 17 |
| Downstream O2 sensor check                | → | TEST 18 |
| Fuel conformity check                     | → | TEST 19 |

**TEST 1**

**Fuel supply pump relay check**

Listen to the operation of the fuel supply pump, as well as the fuel pump relay by running command **AC015 Fuel pump relay**.

Check the fuel pump supply on connection **3NA** by running command **AC015 Fuel pump relay**.

Check the **continuity, insulation, and absence of interference resistance** on the following connections:

- **3NA** between components **1047** and **833**,
- **MG** between component **833** and **the earth**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring. Otherwise replace the wiring.

If the fault is still present, contact the Techline.

**AFTER REPAIR**

Carry out a road test, then check with the **diagnostic tool**.

### TEST 2

### Alternator signal module check

#### NOTES

See the **Wiring Diagrams Technical Note for Logan, Sandero, Duster**.

With the engine running, check the alternator charge without any electrical consumers switched on using **PR002 Alternator charge**, then switch on the consumers and check the increase in **PR002**.

Check the **cleanliness** and **condition** of the alternator connector, component code **103** and of the injection computer connector, component code **120**.

If the connector or connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector(s), otherwise replace the wiring.

Check the **insulation, continuity and the absence of interference resistance** on the following connection:  
– **2K** between components **103** and **120**.

If the connection is faulty and if there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace the wiring.

If the check is correct, replace the alternator signal module, component code **103** (see **MR 388 or 451, Mechanical, 16A, Starting - Charging, Alternator: Removal - Refitting**).

If the fault is still present, contact the Techline.

#### AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.

**TEST 3**

**Throttle valve check**

Check that parameter **PR444 Idling speed regulation integral correction** is between:

**5 N.m < PR444 < 10 N.m.**

The attempt is made with the engine idling and warm (**75°C**), without any electrical consumers switched on.

The value of **PR444** must be read at least **20 minutes** after the engine coolant temperature has reached **75°C**.

If the value of **PR444** is greater than **10 N.m**, program the throttle again using command **RZ031 Throttle stop programming**.

If the value of **PR444** is less than **-5N.m**, check the fitting of the throttle and check for possible air leaks (see **MR 388 or MR451, Mechanical, 12A, Fuel mixture, Throttle valve: Removal – Refitting**).

If the fault is still present, contact the Techline.

**AFTER REPAIR**

Carry out a road test, then check with the **diagnostic tool**.



|               |  |
|---------------|--|
| <b>TEST 4</b> | <b>Fuel vapour absorber solenoid valve check</b> |
|---------------|--|

|              |  |
|--------------|--|
| <b>NOTES</b> | See the <b>Wiring Diagrams Technical Note for Logan, Sandero, Duster</b> . |
|--------------|--|

|  |
|--|
| <p>Check the cleanliness, mounting, possible leaks and the hoses of the fuel vapour absorber solenoid valve, component code <b>371</b> (see <b>MR 388, Mechanical, 14A, Emission control, Fuel vapour recirculation circuit: Check</b> or <b>MR 451, Mechanical, 14A, Emission control, Fuel vapour absorber: Removal - Refitting</b>).</p>  |
| <p>Listen to the operation of the solenoid valve by running command <b>AC017 Canister bleed solenoid valve</b>.</p>  |
| <p>With the engine idling, disconnect the pipe at the solenoid valve inlet and check that there is no suction on your finger. (These steps allow the sealing of the solenoid valve to be checked for air tightness.)</p>   |
| <p>Check the <b>cleanliness</b> and <b>condition</b> of the canister bleed solenoid valve connector, component code <b>371</b> and of the injection computer connector, component code <b>120</b>.<br/>If the connector or connectors are faulty and if there is a repair procedure (see <b>Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair</b>), repair the connector(s), otherwise replace the wiring.</p>                               |
| <p>Check the <b>insulation, continuity and the absence of interference resistance</b> on the following connections:<br/>– <b>3FB</b> between components <b>371</b> and <b>1047</b>,<br/>– <b>3BB</b> between components <b>371</b> and <b>120</b>.<br/>If the connection or connections are faulty and there is a repair procedure (see <b>Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair</b>), repair the wiring, otherwise replace it.</p> |
| <p>With the ignition on, check for <b>+ 12 V</b> on connection <b>3FB</b> of component <b>371</b>.<br/>If the connection is faulty and there is a repair procedure (see <b>Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair</b>), repair the wiring, otherwise replace it.</p>   |
| <p>Check the <b>resistance of the fuel vapour absorber bleed solenoid valve</b>.<br/>If the resistance of the fuel vapour absorber bleed solenoid valve is not between: <b>24 Ω &lt; X &lt; 30 Ω</b> between <b>0°C</b> and <b>40°C</b>, replace the fuel vapour absorber bleed solenoid valve (see <b>MR 388 or 451, Mechanical, 14A, Emission control, Fuel vapour absorber: Removal - Refitting</b>).</p>   |
| <p>If the fault is still present, contact the Techline.</p>  |

|                     |   |
|---------------------|---|
| <b>AFTER REPAIR</b> | Carry out a road test, then check with the <b>diagnostic tool</b> . |
|---------------------|---|

### TEST 5

### Additional fuel tank check

#### NOTES

See the **Wiring Diagrams Technical Note for Logan, Sandero**.

Check the cleanliness, mounting, possible leaks and the solenoid valve hoses (see **MR 388 Mechanical, 19C, Tank, Additional fuel system petrol pump: Removal – Refitting**).

Listen to the operation of the solenoid valve by running command **AC217 Additional petrol circuit solenoid valve**.

Check the **cleanliness** and **condition** of the connector of the additional petrol circuit solenoid valve, component code **1640** and of the injection computer connector, component code **120**.

If the connector or connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector(s), otherwise replace the wiring.

Check the **continuity, insulation, and absence of interference resistance** on the following connections:

- **3ACM** between components **1640** and **120**,
- **3FB** between components **1640** and **1047**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

Check the supply of the solenoid valve using a test light, by running command **AC224 Additional petrol circuit pump relay**.

Check the internal resistance of the solenoid valve, component code **1640** on the computer connector, component code **120**, its value must be between:  $24 \Omega < X \leq 30 \Omega$ . If the resistance is not correct, replace the solenoid valve (see **MR 388 Mechanical, 19C, Tank, Additional fuel system petrol pump: Removal – Refitting**).

If the fault is still present, contact the Techline.

#### AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.

**TEST 6**

**Air temperature sensor check**

Perform a visual inspection and look for possible sealing faults in the system.  
Ensure the conformity of the system (see **MR 388 or 451, Mechanical, 12A, Fuel mixture, Air inlet: Description**).

If the fault is still present, contact the Techline.

**AFTER REPAIR**

Carry out a road test, then check with the **diagnostic tool**.

### TEST 7

### Air inlet pressure sensor check

Check the fitting and sealing of the inlet air pressure sensor, component code **147** (condition of the seals) and look for possible leaks on the inlet air pipe. Ensure the conformity of the system (see **MR 388 or 451, Mechanical, 12A, Fuel mixture, Air inlet: Description**).

With the ignition on, compare the value of **PR312 Manifold pressure** for the vehicle concerned with that given by another vehicle (**absolute difference < 130 mbars**).

Check the **connection** and **condition** of the connector of the inlet air pressure sensor, component code **147** and of the injection computer connector, component code **120**.

If the connector or connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector(s), otherwise replace the wiring.

Check the supply voltage of the sensor on connections **3AJR** and **3AJP**.

Check the **insulation, continuity and the absence of interference resistance** on the following connections:

- **3AJP** between components **120** and **147**,
- **3AJR** between components **120** and **147**,
- **3AJQ** between components **120** and **147**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

With the ignition on, use a vacuum pump in order to create a variation in negative pressure. Then use the diagnostic tool to check that **PR312 Manifold pressure**  $\leq$  **500 mbar**.

Replace the inlet air pressure sensor, component code **147** (see **MR 388 or 451, Mechanical, 12A, Fuel mixture, Air inlet: Description**) and repeat the vacuum test.

If the fault is still present, contact the Techline.

### AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.

### TEST 8

### Accelerator pedal potentiometer check

#### NOTES

See the **Wiring Diagrams Technical Note for Logan, Sandero, Duster**.

Check the variation in **PR055 Engine speed** when depressing the accelerator pedal (with the engine running).

Stop the engine and switch on the ignition. Without action on the pedal, check that the voltage correction of circuit 1:

- **PR147 Pedal potentiometer voltage gang 1** is less than **817 mV** and
- **PR148 Pedal potentiometer voltage gang 2** is less than **440 mV**.

Then, in the "full load" position, check the voltage of circuit 1: **PR147** must be greater than **4185 mV** and **PR148** must be greater than **2013 mV**.

Also check the pedal position in the following cases:

- "position zero" (**PR030 Accelerator pedal position = 0**)
- "Full load" (**PR030 = 1**).

Stop the engine and then switch on the ignition.

With the vehicle under **+ after ignition feed**, measure the voltage between the following connections:

- **3LR** and **3LT** of component **921**,
- **3LU** and **3LV** of component **921**.

If the value is not between  **$4.75\text{ V} \leq X \leq 5.25\text{ V}$** , check **the insulation, the continuity and the absence of interference resistance** of the following connections:

- **3LR** between components **120** and **921**,
- **3LT** between components **120** and **921**,
- **3LU** between components **120** and **921**,
- **3LV** between components **120** and **921**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

Check the **insulation, continuity and the absence of interference resistance** on the following connections:

- **3LS** between components **120** and **921**,
- **3LW** between components **120** and **921**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

#### AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.

### TEST 8 CONTINUED

Remove the **accelerator pedal**, component code **921** (see **MR 388, Mechanical, 17B, Petrol injection, Accelerator pedal potentiometer: Removal – Refitting** or **451, Mechanical, 37A, Mechanical component controls, Accelerator pedal: Removal – Refitting**).

**Without action on the accelerator pedal**, check the **resistance** between the following connections:

Gang 1:

- **3LT** and **3LS** of component **921**, the **resistance** must be between **718  $\Omega \leq X \leq 5263 \Omega$** ,
- **3LT** and **3LR** of component **921**, the **resistance** must be between **838  $\Omega \leq X \leq 1742 \Omega$** ,
- **3LR** and **3LS** of component **921**, the **resistance** must be between **1312  $\Omega \leq X \leq 6495 \Omega$** .

Gang 2:

- **3LV** and **3LW** of component **921**, the **resistance** must be between **701  $\Omega \leq X \leq 5242 \Omega$** ,
- **3LV** and **3LU** of component **921**, the **resistance** must be between **1495  $\Omega \leq X \leq 3105 \Omega$** ,
- **3LU** and **3LW** of component **921**, the **resistance** must be between **1978  $\Omega \leq X \leq 7894 \Omega$** .

If these checks are incorrect, replace the **accelerator pedal sensor**, component code **921** (see **MR 388, Mechanical, 17B, Petrol injection, Accelerator pedal potentiometer: Removal – Refitting** or **MR 451, Mechanical, 37A, Mechanical component controls, Accelerator pedal: Removal – Refitting**).

If the fault is still present, contact the Techline.

**With the accelerator pedal depressed to the end of travel**, check the **resistance** between the following connections:

Gang 1:

- **3LT** and **3LS** of component **921**, the **resistance** must be between **1361  $\Omega \leq X \leq 6600 \Omega$** ,
- **3LT** and **3LR** of component **921**, the **resistance** must be between **838  $\Omega \leq X \leq 1742 \Omega$** ,
- **3LR** and **3LS** of component **921**, the **resistance** must be between **668  $\Omega \leq X \leq 5160 \Omega$** .

Gang 2:

- **3LV** and **3LW** of component **921**, the **resistance** must be between **1276  $\Omega \leq X \leq 6436 \Omega$** ,
- **3LV** and **3LU** of component **921**, the **resistance** must be between **1495  $\Omega \leq X \leq 3105 \Omega$** ,
- **3LU** and **3LW** of component **921**, the **resistance** must be between **1403  $\Omega \leq X \leq 6700 \Omega$** .

If these checks are incorrect, replace the **accelerator pedal sensor**, component code **921** (see **MR 388, Mechanical, 17B, Petrol injection, Accelerator pedal potentiometer: Removal – Refitting** or **MR 451, Mechanical, 37A, Mechanical component controls, Accelerator pedal: Removal – Refitting**).

If the fault is still present, contact the Techline.

### AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.

### TEST 9

### Brake pedal switch check

#### NOTES

See the **Wiring Diagrams Technical Note for Logan, Sandero, Duster**.

With the brake pedal **released**, check **ET039 Brake pedal** and **ET799 Brake wire contact**.

**ET039** must be **01** and **ET799** must be **01**.

While depressing the brake pedal, check **ET039** and **ET799**.

**ET039** must be **02** and **ET799** must be **02**.

If these two checks are correct, the switch is not faulty.

Check the fitting and mechanical operation of the brake pedal (the pedal returns properly).

If the check is incorrect, check the braking system.

With the brake pedal **depressed**, measure the **resistance** of the **brake pedal switch**, component code **160** between connections **AP1** and **65A**, the value must be **X > 10 MΩ**.

If the **resistance** is not correct, replace the **brake pedal switch**, component code **160** (see **MR 388 or 451, Mechanical, 37A, Mechanical component controls, Brake pedal switch: Removal - Refitting**).

With the brake pedal **released**, measure the **resistance** of the **brake pedal switch**, component code **160** between connections **AP1** and **5A**, the value must be between **0 Ω < X < 1 Ω**.

If the **resistance** is not correct, replace the **brake pedal switch**, component code **160** (see **MR 388 or 451, Mechanical, 37A, Mechanical component controls, Brake pedal switch: Removal - Refitting**) and move on to the **part: Checking the brake pedal switch**.

Check the condition of the **brake pedal switch** connector, component code **160** (see **MR 388 or 451, Mechanical, 37A, Mechanical component controls, Brake pedal switch: Removal - Refitting**).

If the connector is faulty and there is a repair method (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

Check the presence and condition of the brake pedal fuse **F03 (10 A)**.

Check the **insulation, continuity and the absence of interference resistance** on the following connections:

- **AP1** between components **160** and **1016**,
- **5A** between components **160** and **120**,
- **65A** between components **160** and **120**,

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

#### AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.

|                |                         |
|----------------|-------------------------|
| <b>TEST 10</b> | <b>TDC sensor check</b> |
|----------------|-------------------------|

|              |  |
|--------------|--|
| <b>NOTES</b> | See the <b>Wiring Diagrams Technical Note for Logan, Sandero, Duster</b> . |
|--------------|--|

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|--|
| Check the fitting of the sensor (connectors, mountings, etc.) (see <b>MR 388 or 451, Mechanical, 17B, Petrol injection, Crankshaft position sensor: Removal - Refitting</b> ).   |
| Switch on the ignition, check the change of the engine rotation speed using parameter <b>PR055 Engine speed</b> . The value must be between <b>0 rpm</b> and more than <b>120 rpm</b> when the starter is operating.   |
| With the engine running, accelerate to obtain different engine rotation speeds and check that the engine speed correctly changes in relation to the accelerations.<br>If <b>PR055</b> varies, the sensor is sound.   |
| Check the <b>cleanliness</b> and <b>condition</b> of the <b>TDC sensor</b> , component code <b>149</b> and of the injection computer connector, component code <b>120</b> .<br>If the connector or connectors are faulty and if there is a repair procedure (see <b>Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair</b> ), repair the connector(s), otherwise replace the wiring.  |
| Check the <b>resistance</b> of the <b>TDC sensor</b> between connections <b>3BL</b> and <b>3BG</b> on the <b>injection computer</b> connector side, component code <b>120</b> (see <b>MR 388 or 451, Mechanical, 17B, Petrol injection, Petrol injection computer: Removal - Refitting</b> ).  |
| The <b>resistance</b> must be between $175 \Omega \leq X \leq 295 \Omega$ . If the value is not correct, replace the sensor (see <b>MR 388 or 451, Mechanical, 17B, Petrol injection, Crankshaft position sensor: Removal - Refitting</b> ).   |
| Check the <b>insulation, continuity and the absence of interference resistance</b> on the following connections:<br>– <b>3BL</b> between components <b>120</b> and <b>149</b> ,<br>– <b>3BG</b> between components <b>120</b> and <b>149</b> .<br>If the connection or connections are faulty and there is a repair procedure (see <b>Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair</b> ), repair the wiring, otherwise replace it. |
| If the fault is still present, contact the Techline.   |

|                     |   |
|---------------------|---|
| <b>AFTER REPAIR</b> | Carry out a road test, then check with the <b>diagnostic tool</b> . |
|---------------------|---|



### TEST 11

### Pinking sensor check

#### NOTES

See the **Wiring Diagrams Technical Note for Logan, Sandero, Duster**.

Start the engine and let it idle. Then, check that **PR427 Average pinking signal** is 0.

With the engine idling, check that parameters **PR469 Cylinder 1 pinking value**, **PR471 Cylinder 2 pinking value**, **PR473 Cylinder 3 pinking value**, **PR475 Cylinder 4 pinking value** are all 0.

Check the **cleanliness** and **condition** of the **pinking sensor** connector, component code **146** and of the injection computer connector, component code **120**.

If the connector or connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector(s), otherwise replace the wiring.

Check the **resistance** of the **pinking sensor** between connections **3DQ** and **3S** on the **injection computer** connector side, component code **120** (see **MR 388 or 451, Mechanical, 17B, Petrol injection, Petrol injection computer: Removal - Refitting**).

The **resistance** must be:  **$X > 10 \text{ M}\Omega$** .

If the resistance value is not correct, replace the pinking sensor (see **MR 388 or 451, Mechanical, 17B, Petrol injection, Petrol injection: List and location of components**).

Check the **insulation, continuity and the absence of interference resistance** on the following connections:

- **3DQ** between components **120** and **146**,
- **3S** between components **120** and **146**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If the fault is still present, contact the Techline.

#### AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.

### TEST 12

### Additional fuel tank pump check

#### NOTES

See the **Wiring Diagrams Technical Note for Logan, Sandero**.

Listen to the operation of the additional fuel pump and of the petrol pump relay of the additional circuit by running command **AC224 Additional petrol circuit pump relay**.

Check the supply of the solenoid valve using a test light, by running command **AC224**.

If the supply is correct, replace the additional fuel pump (see **MR 388 Mechanical, 19C, Tank, Additional fuel circuit tank: Removal – Refitting**).

Check the **continuity, insulation, and absence of interference resistance** on the following connections:

- **3ACL** between components **1639** and **283**,
- **NH** between **earth** and **283**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

If the checks are correct, run fault finding on the Protection and Switching Unit.

If the fault is still present, contact the Techline.

#### AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.

### TEST 13

### Injector check

#### NOTES

See the **Wiring Diagrams Technical Note for Logan, Sandero, Duster**.

Perform a visual inspection of the condition and possible leaks in the system.  
Repair if necessary (see **MR 388 Mechanical, 13A, Fuel supply, Injector rail – Injectors: Removal – Refitting** or **MR 451, Mechanical, 17B, Petrol injection, Injector rail - Injectors: Removal – Refitting**).

Listen to the operation of the injectors by running the commands:

- **AC005 Cylinder 1 injector**,
- **AC006 Cylinder 2 injector**,
- **AC007 Cylinder 3 injector**,
- **AC008 Cylinder 4 injector**.

Replace the injectors if necessary (see **MR 388 Mechanical, 13A, Fuel supply, Injector rail – Injectors: Removal – Refitting** or **MR 451, Mechanical, 17B, Petrol injection, Injector rail - Injectors: Removal – Refitting**).

If the fault is still present, contact the Techline.

#### AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.

### TEST 14

### Ignition coil check

#### NOTES

**Special note:**

To apply this procedure, use special tool Elé. 1808: Ignition coil tester, available in the Parts Department catalogue.  
part number: 77 11 381 808.

See the **Wiring Diagrams Technical Note for Logan, Sandero, Duster.**

#### K4M engine

Perform a visual inspection of the condition of the connectors for the following: pencil ignition coil no.1, component code **1077**, pencil ignition coil no.2, component code **1078**, pencil ignition coil no.3, component code **1079**, pencil ignition coil no.4, component code **1080** (see **MR 388 or 451, Mechanical, 17A, Ignition, Coils: Removal – Refitting**).

If the connector or connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector(s), otherwise replace the wiring.

Insert tool **Elé. 1808 (1)** into the coil.

Place the tool/coil assembly in the spark plug well.

Start the engine and let it idle.

Apply light pressure to the assembly to hold the coil in contact with the tool.

Observe the glow from the electric arc on the spark plug well wall.

If the electric arc is not produced, replace the coil concerned (see **MR 388 or 451, Mechanical, 17A, Ignition, Coils: Removal – Refitting**).

If the fault is still present, contact the Techline.

#### AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.

### TEST 14 CONTINUED

### Ignition coil check

#### K7M engine

Perform a visual inspection of the condition of the ignition coil connectors, component code **778** (see **MR 388 Mechanical, 17A, Ignition, Coils: Removal – Refitting**).  
If the connector or connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector(s), otherwise replace the wiring.

Insert tool **Elé.1808 (1)** in the cap of the wire of the plugs concerned.  
Fit the assembly in the plug well.  
Start the engine and let it idle.  
Apply light pressure to the assembly to hold the coil in contact with the tool.  
Observe the glow from the electric arc on the spark plug well wall.  
If the electric arc is not produced, replace the ignition coil (see **MR 388 Mechanical, 17A, Ignition, Coils: Removal – Refitting**).

If the fault is still present, contact the Techline.

#### D4D engine

- Switch on the vehicle + **after ignition feed**.
- Run command **VP036 FUEL SUPPLY INHIBITION**.

Put the vehicle under starting conditions:

- position of gear lever in neutral for a manual gearbox\* or position "P" (Parking) for an automatic gearbox\*.
- brake pedal depressed.
- Run command **RZ003 ENGINE ADAPTIVES**.

Remove the plugs from each cylinder and check, one after another, that sparks are present by bringing the plug close to a chassis earth, with the starter engaged. If no spark is produced, replace the ignition coil, component code **778** (see **MR 388 Mechanical, 17A, Ignition, Coils: Removal – Refitting**).

If the fault is still present, contact the Techline.

BVM\*: Manual gearbox.

BVA\*: Automatic gearbox.

### AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.

### TEST 15

### Coolant temperature sensor check

#### NOTES

See the **Wiring Diagrams Technical Note for Logan, Sandero, Duster**.

If the fault is still present, contact the Techline.

With the engine idling: visually check that there are no leaks where the **coolant temperature sensor** is fitted, component code **244** (see **MR 388 or 451, Mechanical, 19A, Cooling, Coolant temperature sensor: Removal - Refitting**).

Switch off the engine. Wait for **15 minutes**, restart the engine and, for **10 minutes**, check that the temperature value given by the sensor increases, using parameter **PR064 Coolant temperature**.

If the value increases, the sensor is sound.

Check the condition of the **coolant temperature sensor** connector, component code **244** and of the **injection computer** connector, component code **120**.

If the connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

Check the supply between connections **3JK** and **3C** of component **244**.

Check the **insulation, continuity and absence of interference resistance** on the following connections:

- **3JK** between components **244** and **120**,
- **3C** between components **244** and **120**.

If the connections are faulty and if there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace the wiring.

If the fault is still present, replace the **coolant temperature sensor**, component code **244** (see **MR 388 or 451, Mechanical, 19A, Cooling, Coolant temperature sensor: Removal - Refitting**).

If the fault is still present, contact the Techline.

#### AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.

### TEST 16

### Fan relay check

#### NOTES

See the **Wiring Diagrams Technical Note for Logan, Sandero, Duster**.

Check the operation of the low speed fan assembly by running command **AC038 Low speed fan assembly relay**.  
Check the operation of the high speed fan assembly by running command **AC039 High speed fan assembly relay**.

If these two checks are correct, the fan assembly relay is not faulty

Run command **AC038** and use the test light to check for the control signal of component **120** on connection **3JN** of component **700**.

Check the connection and condition of the **fan assembly** connector, component code **188** and of the **injection computer** connector, component code **120**.

If the connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

Check the **insulation, continuity and absence of interference resistance** on the following connections:

- **3JN** between components **700** and **120**,
- **49C** between components **321** and **700**,
- **49B** between components **188** and **321**.

If the connection or connections are faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

Run command **AC038** and use the test light to check for the presence of supply at the relay output.  
If the supply is absent, replace the **low speed fan assembly relay**, component code **700**.

Run command **AC039** and use the test light to check for the control signal of component **120** on connection **3JP** of component **336**.

Check the **insulation, continuity and absence of interference resistance** on the following connection:

- **49B** between components **336** and **188**,
- **3JP** between components **336** and **120**.

If the connection is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

Run command **AC039** and use the test light to check for the presence of supply at the relay output.  
If the supply is absent, replace the **high speed fan assembly relay**, component code **336**.

If the fault is still present, contact the Techline.

#### AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.

|                |                                 |
|----------------|---------------------------------|
| <b>TEST 17</b> | <b>Upstream O2 sensor check</b> |
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| <b>NOTES</b> | See the <b>Wiring Diagrams Technical Note for Logan, Sandero, Duster</b> . |
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Visually check the position and mounting of the upstream oxygen sensor (see **MR 388 or 451, Mechanical, 17B, Petrol injection, Oxygen sensors: Removal - Refitting**).

With the engine warm, **PR064 Coolant temperature** > 70°C, depress the accelerator pedal and check that **PR098 Upstream oxygen sensor voltage** varies correctly between: **20 mV < PR098 < 1395 mV**. The variation must be greater than **50 mV**.

Check the connection and condition of the upstream oxygen sensor connector, component code **887** and of the **injection computer** connector, component code **120**.

If the connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

Check the **insulation, continuity and absence of interference resistance** on the following connection:

- **3GH** between components **887** and **120**,
- **3GK** between components **887** and **120**.

If the connection is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

Check the resistance value of the upstream oxygen sensor, component code **887** on the computer connector side, component code **120**. With the engine stopped for **10 minutes**, the resistance value should be between **7 Ω and infinity**.

If the resistance is not correct, replace the upstream oxygen sensor, component code **887** (see **MR 388 or 451, Mechanical, 17B, Petrol injection, Oxygen sensors: Removal - Refitting**).

Check that the TDC\* sensor programming is correct (see the section on **Replacement of components**).

Run test **SC007 Run OBD test: O2 sensor** and start the engine (Only depress the brake pedal to authorise the starting of the engine).

At the end, check the test results:

**STATUS1**: Run the test again with the engine coolant temperature **X > 90°C**.

**STATUS2** or **STATUS3**: Sensor OK.

**STATUS4**: Replace the upstream oxygen sensor (see **MR 388 or 451, Mechanical, 17B, Petrol injection, Oxygen sensors: Removal – Refitting**).

If the fault is still present, contact the Techline.

TDC\*: TOP DEAD CENTRE

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|---------------------|---|
| <b>AFTER REPAIR</b> | Carry out a road test, then check with the <b>diagnostic tool</b> . |
|---------------------|---|



### TEST 18

### Downstream O2 sensor check

#### NOTES

See the **Wiring Diagrams Technical Note for Logan, Sandero, Duster**.

Visually check the position and mounting of the downstream oxygen sensor, component code **242** (see **MR 388 or 451, Mechanical, 17B, Petrol injection, Oxygen sensors: Removal - Refitting**).

With the engine warm, **PR064 Coolant temperature > 70°C**, depress the accelerator pedal for **3 minutes**, perform several accelerations and check that **PR099 Downstream oxygen sensor voltage** varies correctly between:  
**0 mV < PR099 < 1000 mV**.

Check the connection and condition of the downstream oxygen sensor connector, component code **242** and of the **injection computer** connector, component code **120**.

If the connectors are faulty and if there is a repair procedure (see **Technical Note 6015A, Repairing electrical wiring, Wiring: Precautions for repair**), repair the connector, otherwise replace the wiring.

Check the **insulation, continuity and absence of interference resistance** on the following connection:

- **3GL** between components **242** and **120**,
- **3GJ** between components **242** and **120**.

If the connection is faulty and there is a repair procedure (see **Technical Note 6015A, Electrical wiring repair, Wiring: Precautions for repair**), repair the wiring, otherwise replace it.

Check the resistance value of the downstream oxygen sensor, component code **242** on the computer connector side, component code **120**. With the engine stopped for **10 minutes**, the resistance value should be between **7 Ω and infinity**.

If the resistance value is not correct, replace the downstream oxygen sensor, component code **242** (see **MR 388 or 451, Mechanical, 17B, Petrol injection, Oxygen sensors: Removal - Refitting**).

If the fault is still present, contact the Techline.

#### AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.

### TEST 19

### Fuel conformity check

#### WARNING:

During this operation, it is essential to:

refrain from smoking or bringing incandescent objects close to the work area,  
protect yourself against fuel splashes due to residual pressure in the pipes, wear safety goggles with side guards and waterproof gloves (Nitrile type).

#### IMPORTANT:

To avoid any corrosion or damage, protect the areas on which fuel is likely to run.

To prevent impurities from entering the circuit, place protective plugs on all fuel circuit components exposed to the open air.

Remove 1 L of fuel at the fuel filter outlet (see **MR 388 or 451, Mechanical, 19C, Tank, Fuel tank: Draining**), using a pneumatic transfer pump (**part no. 634-200**) and place it in the 1300 ml plastic cup. Cover the plastic cup with its cover and allow it to settle for approximately **2 minutes**.

#### Check if the fuel is cloudy or if it separates into two parts.

If the fuel is cloudy or if it separates into two parts, there is water in the fuel, the fuel is not correct.

Drain the fuel circuit, including the tank (see **MR 388 or 451, Mechanical, 19C, Tank, Fuel tank: Draining**).

Visually compare the fuel removed with the correct petrol.

#### Are the samples identical?

If the samples are identical, this means that the fuel is correct.

Otherwise, drain the fuel circuit, including the tank (see **MR 388 or 451, Mechanical, 19C, Tank, Fuel tank: Draining**).

#### Note:

Contact the Techline if you have doubts or problems with the customer.

### AFTER REPAIR

Carry out a road test, then check with the **diagnostic tool**.